THE BUILDER

A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE AND DECORATIVE ARTS.

VOL. CVI.—No. 3706. FEBRUARY 13, 1914.

A NEW ATTITUDE TOWARDS OLD BUILDINGS.

ATTENTION has again been called to our attitude towards ancient buildings by an interesting paper at the Institute by Mr. W. A. Forsyth, in which he proposes that the recommendations of the Institute on "The Conservation of Ancient Monuments" should once more be revised.* We are inclined to agree with Mr. Forsyth that "a considerable change of thought upon some of the larger principles of the subject" has arisen since these recommendations were last revised, but it is just possible that this change may be in a direction which neither the recommendations nor his proposed amendments appear to take into account.

We think it will be admitted by all those who are familiar with these recommendations that they are chiefly concerned with the historical point of view. Should they now be amended in accordance with the general tendency of Mr. Forsyth's suggestions, they will, in our opinion, be almost entirely concerned with it. Should they, then, as Mr. Forsyth hopes, embody principles impossible to controvert, it will be from the antiquary's point of view, but not, we venture to think, from that of the architect.

From the historical point of view an old building seems to be considered simply as an historical document. Its value appears to consist in the amount of history it records and in the accuracy with which it records it. From the architectural point of view a building, whether old or new, is considered first and foremost as a work of art—as the expression of an idea. Its value consists in the truth of the idea and in the accuracy with which this idea is expressed.

From the historical point of view "the present views of reasonable men with regard to a monument to be protected are that all its historical evidence must be first preserved and then such of its amenities as do not conflict with its historical character."†

From the architectural point of view the expression of the idea should be first preserved and then such historical interest as does not conflict with its architectural character.

Both architect and historian may agree generally on the value of preservation, but it is evident that these different points of view may lead to a difference of opinion on certain points, and to a totally different conception of the spirit in which such preservation should be carried out in practice.

The historian shows a fine impartiality. It is not for him to discriminate. Everything is of equal value to him as history. From his point of view the destruction of original design is just as interesting as the design itself; the evidence of this destruction just as worthy of preservation as the evidence of original design. The features of a building that fill the historian with delight, as giving evidence, it may be, of some social or political tendency, are too often just those that fill the architect with regret at the loss or mutilation of an organic creation.

Every change that takes place in a building is important to the historian, not because it throws light on the theory or history of architecture—it may or it may not—but because it illuminates other subjects with which the architect has no concern. But these other subjects are precisely those in which the historian is chiefly concerned, and it is in their interests, and not in those of art, that he seeks to preserve and add to the history of old buildings.

But we must remember that a gain to history is usually a loss to architecture, and that the varied antiquarian interest so many old buildings display has been acquired at the expense of their original architectural qualities. An old building preserved in its original state, retaining its original arrangement, composition, and unity of conception, might present to the modern architect a most valuable example of a true idea finely expressed, but it would not present so rich and satisfying a feast to the modern historian as would one whose real architectural significance and value had been entirely obliterated during the process of recording five centuries of history. Happy the building that records no history! Yet it is not only historians but architects who maintain the right of a building to go on recording it, who insist on the "continuance of the historical account." Indeed, judging from recent expositions of the historical standpoint, we might almost imagine that old buildings were especially designed as ancient monuments, simply created to gratify the historic sense of those whose chief interest in buildings is not an artistic one. That the historic sense should be gratified no one would deny, but it should not be gratified at the expense of architecture or at the cost of the architect's original intention. Where this original intention still exists a clear issue seems to arise between those who would wish to preserve it, even at the risk of leaving no evidence of its preservation, and those who think that its preservation is of less importance than the preservation of evidence of the fact that it has not been preserved.

Granted that the original intention in many mediæval buildings is so hopelessly destroyed as to confuse the issue, yet there are some buildings of this period, and more of a later one, in which the original intention is sufficiently obvious and the unity of conception sufficiently complete as to make this issue perfectly clear.

If we are going to admit the principle that it is more important to leave unmistakable evidence of repair than to preserve the original design, we must ask ourselves to what result the application of this principle will lead.

Its application to St. John's College, Oxford, may be justified by the condition of the building or by other special circumstances, but it is clear that by the time the last stone moulding has been replaced by tiles it will have led to the disappearance of Inigo Jones's intention. This may not matter to the historian, inconsistent though it seems with his attitude; but it does matter to the architect, and it matters very much. We recognise the difficulty of the historian, who realises that an artist's ideas have historical value also, but it is his dilemma, not ours.

There may be no danger of this particular procedure being applied to other buildings, but, at the same time, there does

D

* Mr. Forsyth's paper was read at a meeting of the Royal Institute of British Architects on December 15, and an abstract of the paper and some notes of the interesting discussion which followed appeared in our issue for December 19.

† Mr. W. J. Davies—R.I.B.A. Medal Essay.

seem a danger in any possible application of the principle to complete designs hitherto untouched by the maker of history.

The architect realises, if the archæologist does not, that a design is a carefully-studied composition in which every detail has its exact and deliberately determined value, from which nothing can be taken away, not even by decay—to which nothing can be added, not even by evidence of repair—without to that extent altering or diminishing the effect it was intended to produce, so lessening the force of its intellectual and spiritual appeal. If something has been taken away the historian is not content simply to replace it; he must needs add a new and jarring element—the unmistakable evidence of the replacement.

It is conceivable that this new element might be added in such a way as to be unnoticeable, but this is just what the historian will not have. As Mr. Forsyth says, "The repair must be permitted to declare itself," it "should be self-expressive," and "clearly recorded." If, in addition to this, "the principle of restoring missing or defaced features is one to be discouraged," if it is "not wise to countenance the reproduction of sections of mouldings with scrupulous accuracy," and if the material used for repair "should not be exactly similar," it is somewhat difficult to see how the evidence of repair can be introduced into the masterpieces of such architects as Inigo Jones, Wren, Gibbs, or Chambers without seriously diminishing the force of their appeal and their value as architectural conceptions.

If any feature of so complete a building as St. Martin-in-the-Fields, or so perfectly studied a composition as the Banqueting Hall, were destroyed by accident to-morrow, those who respect a great artist's conception and attach more value to the idea he has expressed in the stones than to the age or even the workmanship of the stones themselves would probably wish to see this feature reproduced again exactly as it was before, even at the risk of falsifying history, shocking sentimentalism, and incurring the odium attaching to the word "restoration."

Restoration it may be, but restoration may mean many things. It may mean an ignorance of, or a wilful and barbarous contempt for, the original idea, leading to its misrepresentation, mutilation, or destruction. It may mean an honest, but possibly misguided, attempt at the conjectural re-creation of a lost or partially lost idea. Or it may mean the preservation of an existing idea by the renewal of the material in which it is expressed, as a living organism is preserved by the continued renewal of its tissues. Restoration may mean all these and other processes, equally abhorrent to those who mistrust the word, but there seems to be a fundamental difference between these processes which the Institute recommendations do not appear to recognise.

Neither do they appear to recognise that methods applicable to mediæval buildings, whose designs may have been altered and whose forms may have decayed almost beyond recognition, may not necessarily be applicable to buildings of another period to which fortune has been more kind. Indeed, they do not appear to recognise that such buildings are worthy of preservation at all. Seeing that these recommendations were drawn up under the influence of the Gothic revival, this perhaps is not to be wondered at; and the same fact may account for both their bias and their limitations.

But the architects of the present generation have shifted their ground, and now look at architecture from a different point of view—the view of the designer, not the *dilettante*, the architect, not the archæologist and stylist. As designers they have a special and technical interest in old buildings, distinct from that of the historian, which gives them a special attitude towards old examples of their art.

It is this attitude, not that of the historian, which should dominate the Institute recommendations and the practice they advocate.

But whatever this attitude may be, and whatever influence it may eventually exert on our methods of preservation, it seems clear that nothing should be done or be left undone that may tend to lessen the value which an example of the expression of the ideas of the past may have for those who express the ideas of the present, even, if needs be, at the expense of history—not that we love history less, but architecture more.

We must not regard ourselves merely as custodians of a past we venerate, but as a link in the chain of tradition without which future progress is impossible.

THE BRITISH SCHOOL AT ROME.

A MEMORANDUM on the course of study for architectural students at the British School at Rome, issued by the authority of the Faculty of Architecture, contains the syllabus of the three years' course, prefaced by some general observations and advice to students by Professor Reginald Blomfield, R.A., the Chairman of the Faculty.

Considering the powerful appeal which Rome itself makes to the historic sense, and considering that the whole atmosphere of the School at Rome has hitherto been principally archæological, there is perhaps a danger that the first few architectural students who arrive before the School of Architecture has had time to assert its influence may find this atmosphere overpowering and be influenced in the direction of archæology.

While the schools of architecture and of archæology have much in common, and should work together with mutual sympathy and understanding, there is yet an essential difference in their aims which the student of architecture should always bear in mind. The archæologist makes researches and undertakes excavations with an eye to the manners and customs of the past, with a view to throwing more light on the past history of the human race; the architect with an eye to the increase of his own knowledge and skill as an architect, with a view to the advancement of architecture as a fine art.

It is satisfactory, then, to find a note of warning in this Memorandum, and to have it definitely stated that the object of the Architectural School is to "develop the systematic study of architecture in its widest sense" and to "train architectural students to be really accomplished architects."

The syllabus of the studies which have been arranged to this end is, no doubt, somewhat in the nature of an experiment, and its modification in the light of future experience is presumably anticipated. Had we an entirely satisfactory system of education complete except for a final course for a few picked students of exceptional brilliancy, it would have been comparatively easy to arrange this course as the natural sequel to all that went before, but it cannot have been so easy to make a beginning under present conditions or to arrange a course for students whose more or less haphazard education may have left them deficient in various technical qualifications considered essential by the Faculty. This appears to be recognised by the Memorandum, as the student is advised to "devote himself at first to the improvement of his technique," and such technical subjects as life drawing and rudimentary modelling are included in the subjects to be studied in the School.

Fears have already been expressed in these columns that the students brought up under our present system, or lack of system, will not possess sufficient technical training to enable them to take full advantage of the opportunity afforded them by this School, or to hold their own, technically, with the students of the Villa Medicis. It has also been suggested that it might have been better if, instead of founding a scholarship to Rome, we had devoted our more immediate attention to building up a sounder and more advanced technique, beginning at the beginning and gradually leading up to the Prix de Rome, and that any funds at our disposal might have been better employed in this direction, so ensuring better education for all before offering special advantages to the favoured few. But there are more ways than one of obtaining any desired results. It remains now for the School at Rome to justify itself by setting up a high standard and exercising a beneficent influence on our educational methods. Much may be done in this direction by the nature and the standard of the qualifications demanded from those who compete for the scholarships, by the insistence on a high degree of technical accomplishment. The regulations governing the award of the scholarships appear also to be somewhat in the nature of an experiment, and will doubtless be modified and improved as time goes on to ensure that all scholars shall "have passed through a fairly advanced course of training in architecture." The more advanced this is the better, and it should surely cover those points which the Faculty considers desirable, such as the history of Roman buildings, drawing from the life, and rudimentary modelling—all of which should form part of our general curriculum here.

A standard of education which permits our most brilliant students to go to Rome knowing nothing of rudimentary modelling is one with which we cannot be content. Indeed, we ought not to be content till our Prix de Rome students have as good an all-round artistic training and as high a standard of general technical accomplishment as the Prix de Rome students from Paris.

NOTES.

Architect and Surveyor.

It is not always easy to say just where an architect's work ends and a surveyor's begins, though most people would no doubt be prepared to assert that the real essence of the architect's work, that which most clearly differentiates him from the surveyor, lies in all questions affecting the design and the construction of buildings. The perusal of an interesting paper on "Value as Applied to Real Estate," read by Mr. Frank W. Hunt at a recent meeting of the Surveyors' Institution, gives the impression that the essential work of the surveyor, that which most clearly differentiates him from the architect, lies in all questions affecting their value when built. Living as we do in an age when high specialisation is essential to existence, the time may arrive when both architect and surveyor may find it necessary to more clearly define their different functions, to draw a more definite line between the two professions, and to specialise more completely than at present in the essentials which differentiate them one from another, possibly to the benefit of both. It is generally recognised, we think, that the knowledge and skill required for the attainment of the highest standard of design demands undivided attention. Judging from Mr. Hunt's paper, the same might be said of the knowledge and skill required for the highest standard of valuation. We gather the impression that it is not easy to excel in both, and that it is far more likely that those who practise both will excel in neither. The combination of both in one practice may meet a necessity of the moment, but the combination of both in one individual seems hardly to make sufficient allowance for the weakness of human nature.

Discoveries at Edinburgh Castle.

Recent research at Edinburgh Castle undertaken by Mr. W. T. Oldrieve, Architect to H.M. Office of Works in Scotland, has resulted in the discovery of the remains of King David's Tower, the existence and even the position of which were hitherto unknown. Investigation of a store connected with the canteen disclosed masonry of an earlier date, and excavations showed traces of the results of a bombardment, and revealed the fact that an old wall, some 8 ft. thick, still existed to a height of some 50 ft. above the surface of the rock. This suggested that King David's Tower had not been destroyed after the capitulation of the Castle to an English force in the sixteenth century, as had hitherto been supposed, but that this tower had been built over and hidden by the late sixteenth-century work of Regent Morton's Half-Moon Battery. In the tower was also found a well some 110 ft. deep, which is supposed to have been the principal water supply of the Castle when used as a fortress in mediæval days. It was pumped dry and thoroughly explored. Numerous objects were found, both in well and tower, but nothing of any special interest or value.

Ownership of Models.

In connection with the ownership of preliminary sketches and other things made, like architects' drawings, merely as a means to an end, a case heard on the 5th inst. at the City of London Court has some interest. According to the *City Press*, the plaintiff made a brass model of "John Bull and His Dog" as a mascot for the front of the defendant's motor-car. The defendant refused to pay the account unless the preliminary wax model was handed over to him. It was stated that it was not customary for modellers to hand over their wax models, and Judge Atherley-Jones, in finding for the plaintiff, with costs, remarked that he had never known eminent sculptors to part with their models. This is a common-sense decision, and it is to be hoped that higher Courts will soon express a similar view as to the right of the client to demand the drawings which, in architecture, occupy a position analogous to that of the model in this case.

A Query and a Reply.

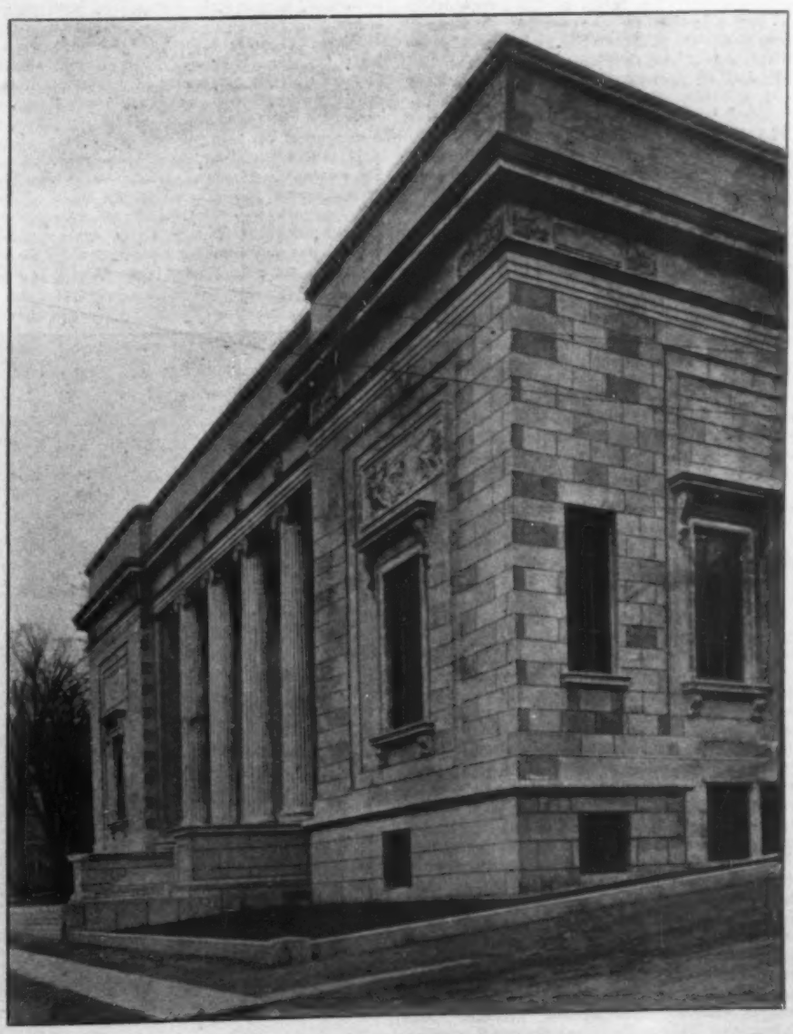
We have received the following from a correspondent, who has, oddly enough, forgotten to sign his communication:—"*Why does the* Builder *so assiduously puff . . . and continually publish their rather poor and plagiaristic designs? Why not be a little less obvious in this sort of touting, or, if there is a rate for this sort of advertising, notify it in the publisher's column?*" We wish our correspondent to know that we, like most others in all walks of life, do our best, and if he or friends of his, will send us better work than that which he despises we shall be delighted to give our space to illustrating it. Real genius is ever modest, and we expect our correspondent must be one, for he carefully withholds his name. The anticipation that he will allow us, *in the interests of architecture*, to publish his work overcomes any personal feeling we should otherwise have at being so severely criticised. We shall hope to acclaim the appearance of a new Inigo Jones on the horizon of the twentieth century, and we promise him to exclude all poor and plagiaristic work if he will let us illustrate his, and we will do this without asking him to pay any fee of any kind whatsoever!

New Royal Academician.

We have pleasure in stating that at a general assembly of Academicians and Associates of the Royal Academy held on Wednesday Mr. Reginald T. Blomfield, A.R.A., was elected a Royal Academician. Mr. Blomfield's election comes as no surprise to his many friends and acquaintances, and the announcement will be received with satisfaction by all who are familiar with his works as an architect and author. His career has been a distinguished one, and he is held in great respect and esteem not only in the ranks of the profession, but by the educated public at large.

Sir Laurence Gomme.

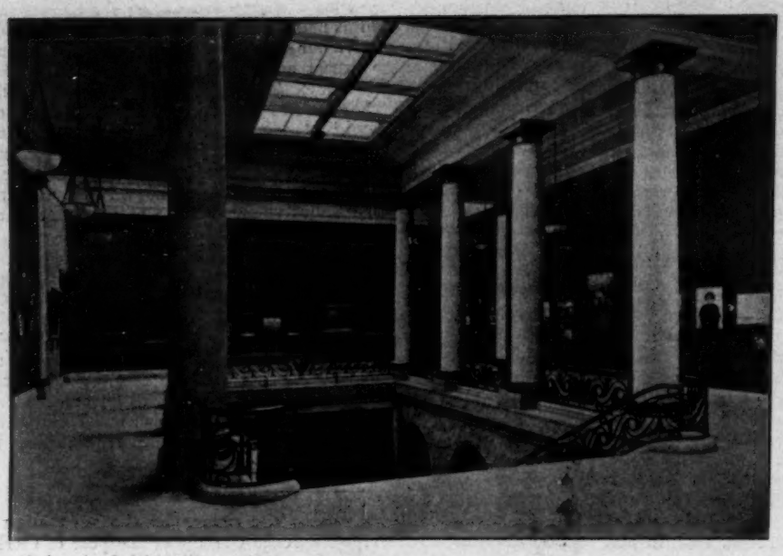
London will be the poorer by the resignation by Sir George Laurence Gomme of the post of Clerk of the London County Council, which he has held with so much distinction since 1900. If, in common with all those who in any way appreciate the value of the public services he rendered, we greatly regret the termination of his official career, our regret is tempered by our conviction that what is lost in one direction will be gained in another. One whose favourite recreation is said to be change of work, and whose interest in London is so many-sided and so profound, may be expected to find congenial opportunities for still serving the city he loves so well. Every citizen of Greater London will wish him the best of health and good fortune in the career that still lies before him.



The New Art Gallery, Montreal.

Messrs. Edward & W. S. Maxwell, Architects.

(From *Construction*, Toronto.)



Staircase of Honour: New Art Gallery, Montreal.

Messrs. Edward & W. S. Maxwell, Architects.

(From *Construction*, Toronto.)

THE NEW ART GALLERY, MONTREAL.

THIS building was the outcome of a limited competition assessed by the late Mr. Edmund M. Wheelwright, who was connected with the new Boston Museum of Fine Art and who advised the Committee. The result of the competition was the selection of the design of Messrs. Edward & W. S. Maxwell, and the accommodation provided includes galleries for the exhibition of painting, sculpture, and objects of art, a library, a school of art, and the necessary administration offices.

Two-thirds of the whole scheme are now executed, the remainder forming an addition, which can be subsequently made without disturbing the existing buildings.

The exterior is classic in treatment, and is a good example of the excellent work which is now being executed in Canada as well as in the United States. The building is carried out in white marble from the Dorset quarries in Vermont, and it is interesting to note that the marble columns are the largest monoliths quarried in this material in America, slightly exceeding 31 ft. in height; the proportion and spacing of the windows are based on a set of experiments made in Boston; the walls of the entrance hall are carried out in Botticino marble from Italy; the upper part of the staircase hall is built of Pavanzzo marble, the columns having bronze capitals and bases.

PICTURE EXHIBITIONS:

WORKS OF THE LATE SIR ALFRED EAST.

THE examples of the late Sir Alfred East's work gathered together at the Leicester Galleries hardly do him justice. He was at his best when working on a large scale, and often in his smaller canvases lost that fine sense of design which was one of his greatest assets as a painter. Since, however, most of his large pictures are scattered about in various public galleries, many of them on the Continent, it was probably not possible to secure them for this exhibition. Instead we have a very fine collection of his etched work, fifty-six of his water-colours, and thirty-nine oil paintings. The etchings really give the clearest indication of where this artist's strength lay. They show how well he understood not only the decorative value of natural objects, more especially of trees, but also their organic structure and meaning. A tree to him possessed definite individuality, and he always succeeded in representing it as a decorative unit in his designs without sacrificing its "treeness" and character. This in itself was no small achievement. In an interesting preface to the catalogue, contributed by M. Edmund Gosse, we learn that "he would treat a particular tree as a living model, and sketch it from the front, from the back, from either side, until there was no fact about its physical conformation which was not clearly known to him." All this is very clearly seen in his etchings, as is also his love for the more dramatic and striking effects of nature which he rendered with extraordinary force and power—occasionally, it must be admitted, with a lack of restraint bordering on the melodramatic.

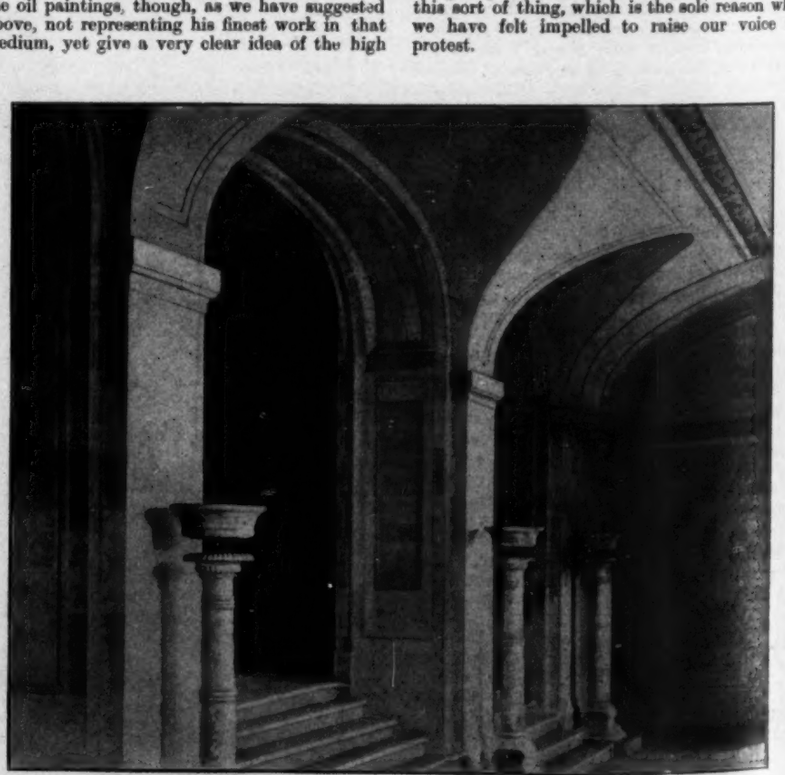
Water-colour as a medium does not seem to have been very congenial to him, if we may judge from the specimens at present exhibited, which lack almost entirely the decision and strength of his work in oil. They have the appearance of being done rather for change and relaxation than as serious work. No. 8, for example, Algeciras, is obviously the result of an hour's amusement on the lines of some of Turner's more exotic water-colours. But the oil paintings, though, as we have suggested above, not representing his finest work in that medium, yet give a very clear idea of the high position he occupied in contemporary landscape painting. They indicate how seriously he took his work, how completely he had mastered the technique necessary for complete expression, and how flexible an instrument oil painting became in his hands. Compare the timid careful handling of No. 74, a very early work, with the certainty and freedom of brushwork displayed in the treatment of the great sunlit tree in No. 72. Yet the latter, in spite of its apparent carelessness, is truer and more expressive than anything in the earlier picture.

Sir Alfred East, like all other men who have done considerable work in the arts, was a student all his life, and to that fact he owed his European reputation.

MODERN SOCIETY OF PORTRAIT PAINTERS.

We hardly knew what attitude to adopt when visiting the exhibition of the Modern Society of Portrait Painters, which opened at the Royal Institute Galleries on February 7. On the one hand we thought some of the pictures were, unintentionally, rather funny, and on the other we know that nearly all were rather bad, and some very bad indeed. In the end we came to the conclusion that there was only one word to describe them—"Swank."

This expressive slang term defies definition. It implies "showing off," a certain meretricious brilliancy, brazen self-confidence, and so on; but none of these phrases quite gives its exact shade of meaning. However, it is possible some of our readers are familiar with the term, and the rest will understand at once by visiting the show. Let them look, for instance, at the impudent facility with which No. 24 is painted. The artist has evidently not the slightest doubt of his ability to express everything he wants to convey to the spectator in a few sweeping strokes of a large brush dripping with oily paint. He succeeds, and his success is typical of the whole exhibition. Nowhere, or almost nowhere, is there an attempt to get below the surface; even in the most literal sense. Not half a dozen of the exhibitors have realised that there is a bone in every head. It is really not very flattering to a client to make his cranium look as soft as a cushion, and his features appear to be lightly attached to his face instead of forming an integral part of it. But the public encourage this sort of thing, which is the sole reason why we have felt impelled to raise our voice in protest.



Main Entrance Hall: New Art Gallery, Montreal.

Messrs. Edward & W. S. Maxwell, Architects.

(From *Construction*, Toronto.)

THE usual fortnightly meeting of the Royal Institute of British Architects was held on Monday at No. 9, Conduit-street, the President (Mr. R. Blomfield, R.A.) in the chair.

The Gold Medal.

The President said that, with reference to the Royal Gold Medal for the current year, he had to announce that the Council proposed to submit to his Majesty the King the name of Monsieur Jean Louis Pascal, Member of the Institute of France, as a fit recipient of the honour in recognition of his distinguished work as an architect. The election would take place on March 9.

President's Address to Students.

The President then delivered an address to students

As we are enabled to give the whole of the President's Address, the R.I.B.A. regulations as to abstracts not applying in this case, we are very pleased to do so, as what Mr. Blomfield says is always of interest to architects.

The President said:—

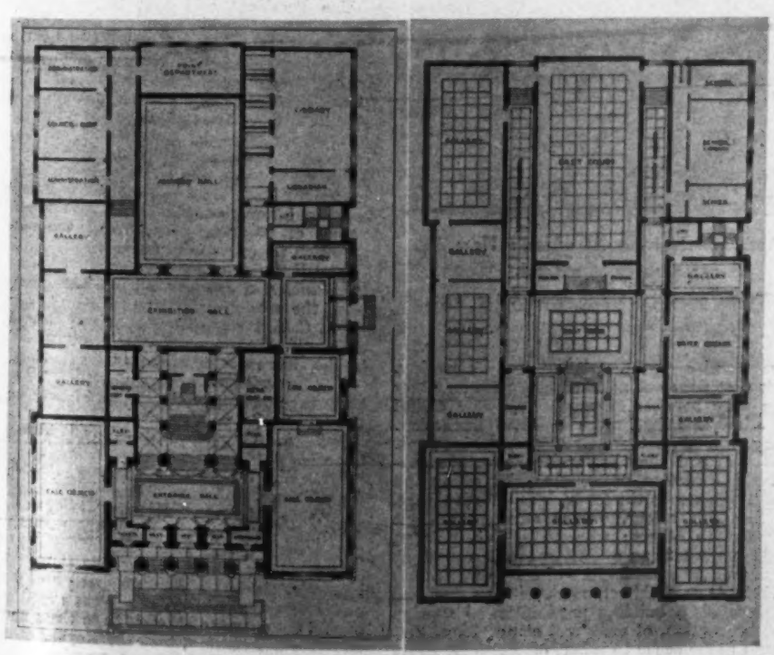
"I have again the pleasant task of addressing you students on your work; and after the somewhat strenuous times through which we architects have been passing lately it is a relief to return to our art itself, and to think of what, after all, is the end and object of all our endeavours—even of those differences which I hope soon to see happily settled—namely, the improvement of that architecture for the furtherance of which this Institute exists. We have, I am glad to say, some able designs sent in this year, and some very remarkable drawings. I note with regret that the study of old work appears to attract our students less than it used to, but Mr. Cave will follow me with a critique on the work in this year's competition, and I invite your very careful attention to what he has to say. I have only one warning to give you, on a point on which I think you will hear more from him, and that is the danger of relying on draughtsmanship rather than on solid design. Mere draughtsmanship is fascinating in itself—personally I appreciate it keenly—but I confess to feeling a little uneasy at the inordinate pains and skill that are now devoted to working up your designs into brilliant drawings. Recollect that the brilliancy of your drawings has no sort of bearing on the quality of the building, the creation of which is the *raison d'être* of all your drawings and designs.

But, now that I have fired off this warning, let me add that I find here solid design as well, and that I am sanguine as to the future of architecture in this country, if only our students will continue to approach it as an art and devote to the mastery of its technique an application not less keen and persistent than that which is recognised as indispensable in the pursuit of the sister arts.

Architects must be getting pretty well case-hardened by now to unfavourable criticisms on their art. Modern architecture has recently been arraigned in a well-known daily paper, and quite a pretty storm in a teacup has been the result. First, we were told that our only hope of salvation was to leave everything to the workman, in what our critic supposed to be the manner of mediæval building. Dislodged from that position, he shifted his ground and expressed in most eloquent terms his admiration for Greek Classic, even going so far as to annex methods of thought and expression in regard to it that have for years been almost commonplaces among serious architects. But, again, so that there should be no mistake as to the worthlessness of the modern architect, he treats the Classic architecture of Rome and the Renaissance with the utmost contumely, not excepting the architecture of France and England; tells us that it was incapable of expressing emotion or any of the deeper feelings of the soul; and, regardless of the history of the seventeenth and eighteenth centuries, asserts that this Neo-Classic never had, and never could, win for itself national recognition and assent. No place of repentance was left for the architect, though he sought it carefully and with tears. Replies were made to this attack by architects, but, except in the case of one brilliant writer who is not an architect, our critic has ignored these replies, and fulminates on the barrenness of modern art in general and the futile practice of the modern architect in particular. I do not think, gentlemen, that this little controversy has made any difference in the position. The points that our critic made are points that have been made before in the interminable controversies that have raged since the break-up of the Classical tradition; and the references in his last reply to "Art and Life" are but echoes of the early days of the arts and crafts movement, when a serious effort was made by Morris, Cobden Sanderson, and those of us who were associated with those men, to put into terms the relations of art and life, to show that, if art was to mean anything, there must be more behind it than a fashion and a trick. Indeed the very term "Art and Life" was part of the title of a volume of essays issued by members of the "Arts and Crafts Society" in 1897. It is a good thing to clear the air now and then and get these things off one's chest, and we are grateful to our critic for having given us the opportunity of dragging some mischievous fallacies out into the open. Otherwise, things are where they were before; and there is no necessity for the aspiring young architect to burn his books and break his T-square, or to start in to spoil good building material by his unskilful efforts, merely because he does not happen to live in the days of Villard de Honnecourt, or to abjure the building art altogether because he happens to live in the twentieth century and not in the age of Pericles. There is an excellent and simple text for artists as for other working men: "Whatsoever thy hand findeth to do, do it with all thy might," and, I may add, decline to be entangled in literary cobwebs, however beautifully spun. The wise man does not quarrel with his environment; he tries to make the best of it.

The foundations on which our methods are based are not quite so shaky, so purely arbitrary, as our critic would have his readers believe. Apart from external tradition, apart from the legacy of the architecture of the past in actual buildings, in every artist there has to be taken into account his own individuality, his temperament, his habit of mind, a certain quality which appears in every expression of his life. That temperamental basis is itself partly the result of heredity; it may contain within itself the germs of long-buried instincts, only waiting for the spark of opportunity to kindle into vigorous life. A famous French surgeon and man of science, who died last year, pointed out, among the last of his utterances, that our thought and our discoveries are often only "the *résumé* of observations of the past, not only of the past from which we directly derive our instruction, but of a past of which we have no conscious knowledge." Are we to turn our back on this? Are we to repudiate all that makes us what we are—that which we have in ourselves, and that what we have acquired by education—*naturam furca expellas, tamen usque recurret.* The genuine Romantic will remain a Romantic, the born Classic cannot escape his instincts, his longing for simplicity of statement, for order, balance, and proportion, for the ascetic

Window: New Art Gallery, Montreal.
Messrs. Edward & W. S. Maxwell, Architects.
(From *Construction*, Toronto.)



Ground Floor. First Floor.

The New Art Gallery, Montreal.
Messrs. Edward & W. S. Maxwell, Architects.
(From *Construction*, Toronto.)

austerity of the highest art. Those who have studied the development of modern architecture in this country with intelligence and sympathy are aware of a certain definite drift of opinion among varying minds. Men have come together to the same standpoint without conscious thought of doing so. Recollect how Norman Shaw came right out of Gothic to the Neo-Classic of his later days. Shaw possessed one of the keenest and most vital intellects that I have ever come across. He was not the man to change his methods on a mere caprice, but he did change them in obedience to his own instincts and to a feeling that was in the air, and that is daily gathering force and giving stability to the architecture of this country.

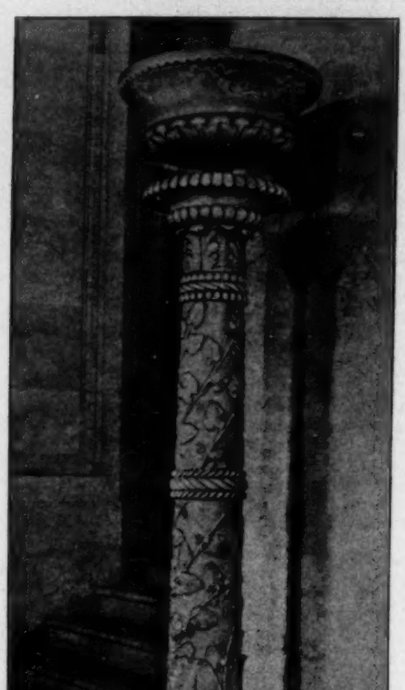
I recollect my own beginnings, if you will pardon my referring to them. When I began the study of architecture I was introduced to a somewhat arid form of Neo-Gothic, which proved inadequate and meagre fare. Romanesque, which seemed for a time an alternative, proved to be incompatible with the conditions of modern practice, with those vertical and horizontal lines which are, in fact, as Mr. MacColl has pointed out, the problem of the modern designer. As one got some sort of an idea of the structural purpose and possibilities of these and other methods it was borne in on one that the column and lintel of Greece and the arch of Rome were the real materials out of which an architecture could be formed that would respond to modern conditions, and then the whole of one's reading at school and college and elsewhere came in to clinch the bargain. My experience is probably that of many of my colleagues. Not consciously and deliberately, but by the steady logic of facts acting on their individual temperaments, they have arrived each at their own idiom, which they neither would nor could change any more than the language that they use.

The results are imperfect, but one step I believe we have made to the attainment of genuine architecture, and that is, we have learnt to think in terms of architecture—we no longer take up a style like a new coat. Personally, I hold that behind every national architecture lie causes deeper than climate, or even material, social, and economic conditions, and they are what I have ventured to call elsewhere the root instincts of the race, instincts which assert themselves not in one style only or in another, but in all the varying methods of expression that succeed each other in a nation's history. We call them vaguely tradition, perhaps inaccurately so, because tradition only refers to the handing on from one generation to another. My view is that tradition itself is only a symptom and evidence of deep-seated underlying instincts which will assert themselves from time to time so long as the race is vital, and which can only fail to do so when the life of a race is dead.

This is why the lamentations on the decrepitude of architecture and bleatings on the spread of materialism leave me cold. The race is still as vital as ever. Year after year gallant deeds are done in places far remote from our humdrum London. I believe there are as good fish in the sea as ever came out of it, but we can't expect them to appear on the surface all at once. I think that you, gentlemen, who are beginning your careers, may possess your souls in patience, and can pursue your art without the paralysing suspicion that, after all, it is no good. It will be all the good in the world if you address yourselves to your labours in the spirit of the true artist, sparing no pains to equip yourselves at every point, to really master your technique. And as to styles, don't worry about them. Each man who has anything to say must have a style—that is, a peculiar manner of his own. All I ask you to do is to study deeply and widely before you pronounce definitely and dogmatically for any one method rather than another. Make quite sure that you really understand it, that it is not merely a court suit to be taken on and off, but a part of your intellectual and emotional life.

I have had the honour of addressing you, students, before in this room on the course of your studies, and you, my colleagues, on the position and probable tendencies of modern architecture, and my remarks have of necessity been of a practical character. The practice of a modern architect is so complex that there are many branches of it which have little to do with architecture, but demand practical business aptitude and high integrity. I am glad to say our calling has never lacked such men—men that hold a high and honourable place in our esteem. But to-night I am not dwelling on this aspect of our work. I am thinking of architecture as a fine art. You students are entering on a great calling. You desire to enrol yourselves in the ranks of famous men who from time immemorial have practised our splendid art.

Now there are two conditions of success or failure, and by success I do not mean the building up of a plethoric practice—I mean the development of the artist himself, that *ἐνέργεια* or self-realisation which is the aim of every true artist. The conditions are—natural aptitude for the art, and enthusiasm and faith in your art. It should be recognised far more clearly than it is in modern life that an artist is *ipso facto*



Alabaster Lighting Standard: New Art Gallery, Montreal.

Messrs. Edward & W. S. Maxwell, Architects.

(From *Construction*, Toronto.)

a rare and exceptional being, and his work a fruit that does not grow on every tree. Other men may be able in commerce, more skilful in administration, more efficient in action. They will find themselves and their work. But here and there is found one with exceptional imagination, observation, skill of eye and hand, who sees in the common aspects of things, in form, in colour, deeper meaning than is revealed to others; who, if he is a painter, finds in what to an ordinary man is a pleasant landscape new possibilities of colour and form; or, if he is an architect, catches in the plan and purpose of a building possibilities of rhythm and proportion, of mass and composition, that would never occur to minds of narrower range not trained to search for these qualities, or to endeavour to embody them in the visible forms of building. Special qualities and endowments are necessary if a man is to become a good architect which are not necessary in the case, say, of what is generally called business. I do not want to discourage you by putting up an impossible standard; all I suggest is that there should be, to start with, some such aptitude as I have sketched, in order that your labours may not be in vain, and result in disillusionment when it is too late to turn back. That you students, winners of prizes and others too, possess this aptitude I am convinced by the work of yours that I have seen.

The second condition that I gave you is enthusiasm and faith in your art. Now I do not want to pitch the note too high. We all of us take up the art with the idea of making our livelihood by it, and our ideals have to be subordinated to the stern realities of life. The point I wish to make to you is that this, though of necessity a dominant motive, should not be the only one. The true artist, the true scholar, the true sportsman have this in common—that they pursue their aims not for ulterior objects, nor for the profits that may accrue, not even for the reputation they may gain, but for love of the thing itself. The artist who studied his modelling with the implacable passion of Zola's tragedy, the scholar who stated with joy that he had found a rare Greek tense "lying snug in Polybius," the sportsman who takes his risks for the thrill of action at its tensest pitch, do these things for the joy of doing them. And this is the spirit with which, through good report and evil report, you students must keep in touch if your work is to live, if it is to be the sincere and genuine expression of yourselves, if the tares are not to spring up and choke the seed that fell upon good ground in the far-distant past.

My address is getting dangerously near to a sermon. I expect I am not the first occupant of this chair who, as he nears the end of his term, has been anxious to give his message to the younger generation. Yet I have a feeling that opinion nowadays is too fluid, that it moves too fast, and that when the air is highly charged, as it seems to be now, the danger of running after some new thing may increase at an alarming ratio. I have endeavoured to reassure you as to what I hold to be an entirely false alarm, but that does not mean that there are no dangers in your path. There are, but they are the old ones of the broad and easy road. My text is the familiar one, adopted by the winner of our prize essay to-night, "*Per ardua ad astra*," and I should not offer it you had I not confidence in your enthusiasm, if I was not convinced that I am only putting into terms what is in the hearts of all of you. The future rests with you, not with us, your seniors; it is for you to show yourselves worthy of the trust we place in you."

Presentation of Prizes.

The President said that before presenting the prizes he would like to say that, although, of course, their congratulations were due to the prize-winners in the competitions, yet the schools also at which these students had studied should also come in for some measure of congratulation, because, although the winner was himself the principal contributor, yet he undoubtedly owed something to the care and attention of those who had been responsible for his training, therefore he proposed to introduce a little innovation that night and read the names of the prize-winners and the schools at which they had been trained.

The list of prize-winners were published in the *Builder* of January 30, and the President gave the schools as follows:—

Mr. C. A. Farey—Royal Academy Schools.

Mr. H. C. Bradshaw—Architectural School of the University of Liverpool.

Mr. Trenwith Wills—Royal Academy Schools and previously at Architectural School of the University of Liverpool.

Mr. A. G. Shoosmith—Royal Academy Schools.

Mr. W. W. Friskin—Glasgow School of Architecture.

Mr. W. Paterson—Edinburgh College of Art.

Mr. P. D. Bennett—Birmingham Municipal School of Art.

Continuing, the President said it would be seen that the prizes had been pretty well distributed over the country, and it was a legitimate matter for congratulation, both to them and to the Royal Academy, that the Royal Academy Schools had carried off the premier honours that year. It reflected credit on the very devoted master of the Architectural School, Mr. C. de Gruchy, and in a lesser degree (and he spoke with diffidence because he was one of them) on the Visitors.

Mr. Walter Cave then read a review of the designs and drawings submitted for the prizes and studentships.

Mr. Cave said—"I cannot help mentioning two tendencies which appear to be gaining ground amongst the students of to-day. First, there appears to be a general falling off in the study of old work, and a neglect of the traditional forms of design. Originality which means ignorance of what has been done before is rarely successful. Originality to be successful can only be achieved by a careful study of the past, and for a student it is the only right method to adopt. Measure and draw the fine work of our ancestors, and so the tradition will be carried on and upwards, and your buildings will rest on sure foundations. Secondly, do not be carried away by mere draughtsmanship, which is not design. It is no doubt very fascinating; but look at the walls of the Architectural-room at the Royal Academy, and you will see that they have lately become a mere water-colour show, and that the more solid architectural design is being neglected."

Mr. Cave then proceeded to review the designs at length.

Sir Thomas Brock, R.A.,

proposed a vote of thanks to the President and Mr. Cave, and said that the President had referred to the criticism which had recently been levelled at modern architecture. He could sympathise with their feelings—what sculptor would not? A great deal of the sculptor's art was like that of the architect, for it was of a public character, and nearly every new piece erected came in for almost as much criticism as one of Mr. Lloyd George's Budgets. He thought that artists, and especially architects and sculptors, were, next to politicians, subject to a greater amount of public criticism than any other body of men, but they could draw some consolation from the knowledge that no two critics ever thought alike, and consequently, having regard to the diversity of their opinions, too much importance need not be attached to any particular one of them. Personally, he always felt that if a man was to excel in any of the arts his severest critic must be himself. It was perhaps not for him, who had been out in the snow for so many years, to say what he was going to say, but he could not refrain from expressing the opinion that the advice of the veteran, whatever the giver may have achieved in life, should, from the fact that it was based on a wide experience, always be carefully weighed by younger men. And therefore how much more reverently should such counsel be considered when it came from one who, like the President, had a wide experience and had succeeded in attaining the highest eminence in his profession. He believed that architecture was bound to flourish in that country, in spite of all the adverse criticism which might be levelled against it, so long as it numbered amongst its leading exponents men who were moved by a true artistic spirit and who were always prepared to do what they could for the art and to speak in its behalf with real conviction and courage.

Mr. Solomon J. Solomon, R.A.,

seconded the motion, and endorsed the remarks of Sir Thomas Brock as to the excellence of the advice given by the President. Students should not take too seriously the criticism expressed by mere theorists. There was a school of literary men at the present day who were having anything but a salutary influence on the arts, particularly amongst the younger men. It was a satisfaction to the members of the Academy present that the students of their school had gained some of the highest awards, and, although the President had modestly disclaimed it, he was sure that he and his colleagues were to an extent responsible for those successes.

The motion having been carried,

The President

replied on behalf of Mr. Cave and himself, and thanked the members of the Royal Academy who were present for helping them on such occasions, as it showed that they were in full sympathy with what the Institute did to improve the architecture of the country. Of course, the alliance between architecture and sculpture was as old as the hills. There never was a time when a man did not build his hut and try to carve on it, and not long after came the painter to do his share. Therefore the alliance between the arts was a primeval affair, but in the course of history, and especially modern history, things got somewhat out of joint. The alliance and sympathy was always felt between the architects and sculptors because it went as a matter of course. They had a building and there were salient points to decorate, and they got the sculptor to do this. But in recent times things had drifted apart, and the public had lost sight of the great possibilities of the decorative art of the painter; the work which had been done by the decorative painter in the past appeared to have been forgotten. A recent example was in a little house in Dean-street, Soho, where there was some charming decoration by an English painter at the early part of the eighteenth century. They would always want their portrait and their landscape painters, but there seemed to him great scope open to the painting art of this country in the question of fine decorative work done by men who knew all there was to be known about the figure and about painting.

It was announced that the next meeting will be held on February 23, when Mr. Paul Waterhouse will read a paper on "London Railway Stations."

ROYAL ACADEMY LECTURES ON ARCHITECTURE.

MR. E. S. PRIOR gave his two concluding lectures on Monday and Friday last week. Dealing with the development of the column from the monolith of classic times to the built-up pier of the Gothic period, this evolution of the column was conditioned by the steadily increasing requirements of the nave, whereas the arch was developed especially in connection with the crossing and lantern tower, and the third great constructive unit, the apse, progressed coincidently with the growth of the complexity of the ritual requirements of the east end.

The development of the shafts formed the chief difference from Roman work. The difficulties of building a wall on a row of columns gave the necessary spur to invention, and the lecturer emphasised the fact that, though the mediæval builders may have wanted to do the same things as the Romans, they were unable to do so because they lacked the necessary engineering skill and appliances, and because they had no big stones. Imperial Rome had the power and the means to quarry huge masses of stone and to transport them for great distances. But in mediæval times this became impossible, the necessary co-ordination having vanished in the welter that followed the break-up of the Western Empire. And as a result builders had to content themselves with small stones, fitted together with great ingenuity. Walls had to be built thicker and piers heavier. In arch building the necessity of using small stones proved to be a most fertile source of the variation of style, since it led directly to the device of recessing the arch, where a single ring of stones built on a light centring can be used as a centring for a second compound arch and so on. The next step of working mouldings on the angles of the stones was obvious, and so this purely practical necessity of using small stones led to one of the most characteristic beauties of Gothic architecture.

The lecturer then showed how the difficulty of adjusting the height of the diagonal arches in vaulting led to many contrivances, the most important of which was the type of vaulting known as sexpartite. The pier was no longer a prop for the lintel, and the classic expression had completely vanished. The Gothic pier expressed how the whole superstructure should be formed.

Mr. Prior then showed in a series of photographs how the lantern over the crossing developed into the spire, whose completest expression was to be seen at Salisbury, and how the bell-tower, originally built separately from the church, became by analogy also a spire, and formed the western towers of Gothic cathedrals.

After the year 1270, roughly speaking, building suddenly grew slack for 200 years, and the lecturer thought a definite change could be detected in the spirit which animated the builders. Before this time the aim had been to get lightness with strength, to fine down the piers and arches as far as possible. But with this date the limit was reached, and builders had to take the further and unfortunate step of trying to make their work appear frailer than it really was. Gothic architecture was an evolution of construction. When construction reached its limits Gothic building became almost cellular. Its walls reverted to the condition of Roman concrete, and, curiously enough, the column and the flat arch came in again. The Renaissance was not as Ruskin termed it, "a foul torrent," but a return to a bigger sense of architecture.

THE CARPENTERS' HALL LECTURES:

"THE ORIGIN OF FORM IN THE BUILDING CRAFTS."

THE fifth of the present course of lectures on "Arts Connected with Building" was delivered on the 4th inst. at Carpenters' Hall, London-wall, by Mr. W. H. Ansell, A.R.I.B.A. The lecturer, whose subject was: "The Origin of Form in the Building Crafts," said:—

"The title of my lecture may have led you to expect an archæological treatise on the early building attempts of primitive man You may be anticipating that I shall take you to the goat-hair tent of the Egyptian nomad of 5000 B.C., and point out to you how his wooden tent-pole suggested the shape which was afterwards given to the inverted bell capitals of the great pillars of Karnak, how the columns of maize stalks, bound together and mud-plastered, impressed their form on the stone-work of later centuries, how the nodding leafy heads of the palms which were used in the interlaced walls became in time the hollow overhanging cornice of Egyptian building, or how the bundle of reeds tied together to strengthen the corners of the primitive mud brick hut suggested the roll moulding used on the edges of buildings and tombs.

Our Egyptologists tell us that these things are so, and were I an Egyptologist I would like nothing so well as to search out with you some of these fascinating origins of building forms. But I am no Egyptologist, and the purpose of my lecture is not archæological but rather practical.

We are here either as practitioners of or persons interested in the art of building, and we hope that by talking of the art we may put into the doing of it a little more inspiration, perhaps a little more knowledge. As practitioners, either as architects or craftsmen, we are constantly using certain forms in our buildings.

Constructionally they resolve themselves into a few great and simple factors of building. The wall, the pier, and the column, as enclosing and supporting members, the lintel and the arch as members for bridging openings in the wall, the vault, and the dome as extensions of the arch factor to the covering in of space are the great primal forms by means of which buildings for the use of man have been raised and roofed and made habitable. They are the heritage of the ages, and have been used by builders of every race and every country. Investigate the finest architecture of the world, and you will find one or another of these constructive forms as the basis of it. But, though all ages have used these forms, they have not used them in the same way. They have been the alphabet and the words through and by which each age has expressed itself and its own thought.

The influences which have gone to the making of the varied fashions of applying these forms are manifold. The degree of culture of a race affects the purposes for which it requires buildings, and in consequence the architecture which should be the expression of those purposes.

The building materials to the craftsman's hand and their capabilities and limitations—the marble of one district, the stone of another, the brick or wood of a third—are potent factors in determining the construction which shall best fulfil his purpose and the forms and shapes such construction shall take. The social condition of the craftsman, whether he be a slave counted by the hundred or a free man able to give play to his own individuality, will in like manner affect his work. In every age and every nationality up to the fifteenth or sixteenth centuries the response of building forms to these and other conditions has been instant and clear. Whatever the derivation of the forms, each age has passed them through its own crucible, has used them in its own way, has, in fact, expressed itself in its buildings. The value and interest of the buildings are vastly increased when this expression, this national impress is most decisive and obvious.

E 2

Now the principles on which building is carried out are unalterable, being the laws of Nature itself, and are in consequence universal in their application; but the forms given to building material are variable. They are not universal, not even cosmopolitan; almost are they parochial.

The variableness is, however, between one age and another, or between one country and another. In the one age, in the one country, of the same race the forms are wonderfully constant. They are constant because they were the expression of current ideas in current building language, and because they were used in harmony with the essentially structural principles governing their origin. It is the result of this constancy that we, with the world laid out before us, have been able to resolve building into what we call the architectural styles.

We gather together the buildings of a hundred years or five hundred years, built by a continuing race of people in any country. We note their likeness, their similarities, their adherence to certain forms, and we call the result one of the architectural styles. By these forms I mean the actual shape given to the building, to its interior, and to its exterior, and the shapes given to the great primal factors I have named—the columns, the lintels, the arches, and so on.

Now the mission of architecture is not merely the satisfying of some physical need, a building to give shelter, or in which to perform various social acts. It must go further than this; it must express in its forms the purpose of the building, and must emphasise by the form given to the parts of the building the work that each of those parts is doing. A building should not only be stable; it should express in its design, its forms, the spirit of stability, the triumph of the constructive expedients adopted in order to obtain the actual stability. This, I think, brings us to a point at which we may postulate our theorem.

Fine building to be a living thing, an art, must first satisfy physical requirements of purpose, of stability. It must then, by means of form or modelling, express the idea underlying the purpose and the method of construction. The forms used must be suggested by the purpose of the building, the material used, and the construction employed, and must not be invented in an irresponsible way by a designer, in order to obtain pleasant effects, nor copied without thought from other countries.

For form may be of four kinds:—

(1) It may be directly inspired by its structural necessity, influenced by current living ideas.

(2) It may be traditional, true to a structural origin, or reminiscent of a solution of a structural necessity that has passed away.

(3) It may be servilely imitative of the forms of some past age.

(4) There is a fourth which is well illustrated by the vagaries of L'Art Nouveau, when men sit down and without any reference to structural necessity or traditional form or limitation of material endeavour to invent new forms.

That way salvation most decidedly does not lie. Of these four varieties of form the first two, in a more or less close conjunction, obtained up to the fifteenth-century movement that we call the Renaissance.

Since that time the basis of form has been the imitation of past forms, those of Greece and ancient Rome mostly; tradition and the conservatism of the craftsman have influenced the process of imitation, and racial preferences have also done much to colour the result with local feeling. But the intention and the root principle of the work done since the fifteenth century in Italy and the sixteenth century in England and all other civilised countries has been, so far as the form is concerned, imitative. And where the imitation has been closest, where the scholarship has been most profound there has the work been the least expressive of its own time.

In the contrary direction, where the traditional knowledge of construction, the conservatism, and the racial prejudice and preferences have had more play, the truer expression has been the result, and, in consequence, the work has been more vital, more in and of its own age.

I have brought with me a few slides to illustrate the points that I am endeavouring to make, and I have selected them from very well-known examples. It is therefore probable that the slides will show you nothing about the buildings that you do not already know. I want you, however, to look at these familiar friends with new eyes, to see in them the use of form in harmony with its structural origin, and in emphasis of the constructive purpose of the factor concerned. Time will not permit of our considering all these factors, so I propose to confine our attention to the column or the pier in each case, and to take in turn a Greek, a Roman, a Byzantine, and a Romanesque building.

My first example is a Greek Temple, perhaps the best known of all temples, the Parthenon—the plan is very simple; a rectangular chamber, surrounded by a colonnade, with a portico at either end. It may be called the apotheosis of the rectangular chamber hut, with its projecting shelter. I suppose that primeval huts were round, and, when of the wigwam type, it would be a little difficult to say whether the slope was wall or roof.

An advance was made in convenience when upright walls were reared, when the sloping roof rested on them, and projected beyond them to throw off the rain. A still greater advance when some genius discovered how to build a straight wall, and how to join two straight walls at right angles and make a corner.

These things are commonplaces now, but the first man who did them was probably either deified or slain, or both, by his adoring or terrified fellows. And when man discovered that the wattle and daub or the mud-brick was not the best material for contact with the earth, he procured stones from the stream bed or the lower slopes of the hillside and formed a strong base to his wall.

This combination of base and wall and projecting eaves is the structural origin of some of the finest buildings man has erected, from the Greek temple to the Florentine Palace. When the roof was projected further to form a shelter, and supported by pillars or wooden posts, we get the actual prototype of the Greek temple, with its chamber or cella and its portico.

Unfortunately the great gaps in the side of the Parthenon scarcely allow us to see what its complete effect was, and so I put on here another temple—the Theseion.

Note the general form of the building, the simplicity of its plan reproduced in its massing; the low sloping roof giving its form to the ends of the building, the unbroken colonnade, no attempt at variety, nor indeed at any kind of effect. The whole thing is the direct expression of the purpose of the building as shown in its plan; the interior and the exterior are one organism. All the main lines are horizontal—steps, architrave, cornice, roof—not because the Greek thought horizontal lines were more artistic, but because the constructive principle on which he built resulted in horizontal lines, the constructive principle of the lintel.

The structural necessity of the Greek colonnade was an upright pillar of stone, with a horizontal slab to span the space between one pillar and another. Without any disguise of this necessity the Greeks refined and perfected the form, giving to it the expression of fitness for its purpose. Time will not permit me to mention all the refinements that were introduced. I will just deal with the column.

It has no base, merely a shaft and a capital. The shaft diminishes upwards, diameter 6 ft. 3 in. at bottom, 4 ft. 10 in. at top, but the line between top and bottom is not straight; it is slightly convex. The builders did not want to make the column look curved, but merely to correct the slight concave appearance of the perfectly straight line. Entasis is often greatly exaggerated in modern work, for we sometimes see columns that resemble barrels in contour. The flutes serve to emphasise the work being done by the column, and with the entasis to give a sense of elasticity and power. The form of the column is in accord with its purpose, and is expressing the very idea of the purpose.

Consider the capital. This is the stone set on the column to assist in bringing the weight of the lintel safely down on to it. The greater area gives more bearing to the lintel. Notice the abacus, the echinus, annulets, and the little sinking. This is intended to prevent spalling of the edge of the flutes.

The Greeks were fortunate in having a material—marble—in which these subtle refinements were capable of being manifested; in brick, or coarse-grained stone, they would be impossible.

The perfection attained by the Greeks was helped by the fact that they were using traditional form. They did not exhaust their vitality in attempts at originality—that was probably the last thing they thought of. All their endeavours were devoted to the perfection of the very well-known constructional forms they were using and the making of them living embodiments of a clear-cut idea.

My Roman example is the Colosseum, one of the finest of the buildings of Old Rome, so fine a building indeed that any criticism of it may appear a little captious. Its vast height (its walls are nearly 160 ft. high), the magnificent sweep of its unbroken curves, the variety of form given by its elliptical shape to the ranges of arches which diminish from the full opening to the merest suspicion of a curve as they disappear round the ellipse, the vigour and the force of it make it one of the great buildings of all time. Its virtues, however, are the result of its triumphant use of the constructional factors—the pier and the arch. Its root motive is not columnar; it is rather that of a cliff, a wall with series of arched openings formed in it one above the other. Each story corresponds with one of the inner encircling galleries which gave access to the seats inside. The shape of the section of the pier corresponds to the work it has to do. The central mass is the great supporting member; the arch on either side has its own organic projection from the mass, as does also the arch across the gallery inside. Externally there is overlaid on these constructive factors a design of columns and entablatures.

There were three stories originally, and therefore the three Orders—the Doric, Ionic, the Corinthian—were pressed into service and fastened to the wall one above the other in order to gain architectural effect. The columns may have assisted a little in the construction by the amount of extra stone that their bulk added to the wall. This was in no way by virtue of their being shaped like columns; any thickening of the wall of whatever shape would have done the work equally well. The distance apart of the columns is too great to be spanned by a true lintel of stone, so that the entablature is also unconstructional. It is not formed of one stone reaching from column to column, but is made up of several small stones bonded into the wall at the back.

We may be thankful that the right feeling of the Roman builder made him carry this entablature along in one vast unbroken sweep. He was, as it were, between two stools. His columns were so far apart that the projection or overhang of the entablature might appear too great if continued in one curve. And if he broke it out above the columns and carried it back to the wall between them he was sacrificing the fine simplicity of his lines and getting instead an irritating succession of little projections. The very fact that he was in this predicament shows that the whole use of column and entablature in this way was unstructural and unsatisfactory. I dare say that the Roman builder was far more proud of these columns and mouldings than he was of his mighty construction.

To-day the Roman expressive-form leaves us comparatively cold while we find far more inspiration in the constructive features of such great fragments as this of the Colosseum, the Pantheon, the Basilica of Constantine, or the great Thermæ.

Modern research, led by such men as M. Choisy, is concerning itself far more with the Roman construction and planning than with the forms with which this construction was clothed.

The Roman used the three Orders borrowed from Greece, and invented a fourth by combining the Ionic and the Corinthian, but he preferred the Corinthian.

The finest examples of Roman Corinthian capitals, of which this is one, have something of the national force and order and love of splendour in them. Notice that the mass shape is concave, that the leaves simply envelop it, and might be cut away without interfering with the structural efficiency; the abacus is not square, but each side is hollowed, leaving narrow projecting angles that are obviously of little use for support. As a matter of fact they supported nothing, the lintel resting on the inner portion of the abacus. When the Emperor Constantine moved his capital to Byzantium in 330 and established the Eastern Roman Empire there he took with him many Roman architects and craftsmen. The first buildings would therefore be Roman, but in course of time the old Greek tradition remaining in Asia Minor asserted itself, and Oriental influences in the direction of elaborate and varied colour decoration also affected the building arts. The combination of Roman engineering skill, Greek refinement, and Oriental

decoration, permeated and transmuted by the inspirations of the Christian religion, produced what we call Byzantine art. Byzantine construction was largely of brick; its walls, arches, and domes were built of this material, faced with thin slabs of marble or with mosaic.

Byzantine columns were monolith blocks of marble, and, having no joints, were smaller in diameter than the earlier Roman ones. But the brick wall above the columns must still retain its thickness, could not be reduced. The problem, therefore, was to place a thick wall and arch on a comparatively slender column, and the difference between the two must be overcome in the design of the capital. Here was a definite structural problem, and from its solution evolved a new form.

The prevailing form of capital was a Greek version of the Roman Corinthian. One of the first expedients was to insert a large block, called either a stilt-block or a pulvino or a dosseret—there are many names for it—between the capital and the arch. This stilt-block was general in the fifth century, but in the sixth century the abacus of the capital and the block were merged into one. The capital then becomes the supporting member, and its form alters accordingly. The new capital was a solid block, not concave but rather convex in form; it was square at the top, where it supported the arch, and round below, where it joined the column. The weak projecting angles of the Roman abacus were superseded by a square form with straight sides better suited for the work it had to do. The acanthus leaf was never entirely abandoned, and appears and reappears in curious wind-blown shapes; but the general tendency of Byzantine carving was to cling closely to the body of the capital. The relief was much flattened, some of the examples having merely a covering resembling basket or net work. The result of this was that the constructive purpose of the capital was emphasised, and the evolution of new form from a structural origin by a craftsman was complete.

My last example, the Romanesque pier, has in it more of the attributes belonging to a portion of a wall than to a column. We have noticed its vast bulk, its clustered shafts and numerous angles, and have perhaps wondered how these shapes came to be, whether they resulted from a desire to express some hidden symbolism, or whether they were the children of some structural necessity.

In my opinion, they were all born of construction, they were not in themselves structural necessities in every case, but were created by the craftsman as the expression of the constructive idea in his work.

Is our building art, the art of architecture, fully expressive of modern life? Is it even seeking to be such an expression? In my opinion, with some honourable exceptions, it is not. With our planning and our construction there is little that is not in full sympathy with the modern spirit. The planning of our great hospitals, our modern technical colleges, is, as a rule, decisive and masterly. Our construction is original and scientific. But when we come to the form which should be the expression of the purpose and the construction we fall back almost entirely upon borrowing.

Our choice of form is governed by our individual scholarship, our personal predilection for one style over another, or by the particular fashion which may for the time being be winning most competitions. We know that in the finest columnar architecture that the world has seen—the Greek Doric—the use of the column gives dignity, repose, the expression of a living stability. In cases, therefore, where there is no need of columns in our own buildings we put them, in order to gain these characteristics or qualities even when their use may be detrimental to the purpose of the building. We solve our own problems of planning and construction, but instead of allowing this solution to penetrate to the exterior and express itself we make an entirely different thing of it by clothing it with borrowed forms—forms which were originally fully expressive of their age and purpose, but which become in our hands stage scenery only.

As a rule we keep our forms separate; we believe that to mix Greek and Byzantine and Tudor details in the one building is incongruous and wrong; but is it, in fact, more incongruous than to be building Neo-Grec offices in London, a fourteenth-century Gothic church in a Surrey village, a Byzantine mission-room in a south-western suburb all at the same time? And the incongruity of this being done by one man is only a little lessened when these respective buildings are put up by three men who were born in England or Scotland, educated at an ordinary English school, and clothed in Harris tweed coats with expanding pleats, lunch together every Saturday at a modern golf club. I cannot deny but that many desirable and estimable qualities are secured by these means, at second-hand as it were, and we as builders are complacently or actively pleased at our success. But ought we to be so satisfied even when our building attains such a degree of success? Such virtue as it may have is not ours; rather does it belong to Ictinus, Mnesicles, or Anthemius of Tralles. Are we not forgetting the constructive origin of form?

Forgetting that form which is thus borrowed and divorced from the conditions which produced it may be imposing and scholarly, but it is not living art in and of this present age. The forms which so please us were the result of definite laws, conditions, and ideas, laws of construction, conditions of material and climate, ideas of religion and social order.

To show that form is looked upon as a thing apart from its constructive origin.

I was in Venice last September, and on a steamboat on the Grand Canal I overheard an Englishman reading to his wife about the palaces we were passing.

"This is the Palazzo Loredan, one of the finest of the Byzantine Palaces, with beautiful capitals and arcades. Above the bridge is the Ca d'Oro, an ornate Gothic palace of the fifteenth century; below is the Palazzo Grimani, a Renaissance building of the sixteenth century."

The lady listened, looked at the palaces one after the other, and said, "Well, I like them mixed!"—as if they had been biscuits or pickles.

She obviously looked on form solely from the point of view of external effect; of the fact that it had any relation to the expression of constructive function she was entirely ignorant. Had she to build a new Venice to-day she would build it "mixed." And some of us have not the right to cast the tiniest pebble, for we are in much the same case.

Why can we not give to our buildings the same affinity with modern life and needs that we already give to such common objects of our streets as, say, the pillar-box?

A pillar-box has certain very definite requirements. It must be of such a size as conveniently to take the hour's letters; it must have a slot at a reasonable height for the easy insertion of those letters, strength to withstand the attack of man or woman, and a door for the emptying of the contents. A rounded form is convenient as offering no corners against which children or unsteady persons might suffer contusions, and a roof which rises in the centre and projects a little over the wall of the pillar-box serves well to throw off the rain. We then paint the box a cheerful red, so that it may be seen easily, and incidentally give a pleasant entertaining splash of colour in an otherwise gloomy street, which it would not do, I may say, if it were painted a dreamy puce or an art green. If we really cared about beauty we might enhance the effect of this reasonable object by commissioning our finest sculptor to fashion a frieze in bronze, which should be fixed as a running band just below our roof projection, as the Greeks fixed their Panathenaic procession under the ceiling of their colonnade. This frieze should in delicate fancy tell of the sending out, the carrying, and the receiving of joyful letters, letters of happiness and love. On our drabbest days when posting our least cheerful letters—say, the payments of monotonously recurring taxes—such a frieze would cheer and comfort us. What we should never do is to build a Greek altar or a mediæval font and use it as a pillar-box. A Greek altar is, or was, a beautiful thing, and, with a little adaptation, could well serve as a pillar-box. Yet I am confident that the foolishness and wrong-headedness of such an adaptation would be at once appreciated. Is it less foolish to clothe our twentieth-century construction with Greek or Gothic forms, both equally unrepresentative of modern life?

Do I, then, advocate the invention of some new architectural style? Certainly not! I do not think such a thing is possible, and, if it were, the result might be exceedingly unpleasant. Fine architectural form never was invented. By the slow growth of years, by allowing the constructive principle to express itself form was evolved and developed. And only in the same way shall we be able to evolve new form. But we may, at any rate, see that our building is expressive of our own modern life, and that the forms we use shall be free from the shackles of an unreasoning archæology or antiquarianism.

Then let us examine and revise our design, casting out ruthlessly every feature that is being used in antagonism to its constructive origin, bringing every form that remains into the closest possible communion with its real and ostensible purpose, relying on the rhythmic use and massing of the great primal factors to express our purpose, rather than on any ornamental label. The process will inevitably be one of elimination to a considerable extent; we need not fear that. There will still be the field for the exercise of the highest artistic faculty we may possess, in the co-operation of the arts of sculpture and painting, with our more truly creative art of building. We must use scientifically every known construction that will give greater efficiency. The experience of the ages is ours, if we choose to make use of it. There is no excuse for ignorance and no virtue in lack of knowledge.

Our studies should not stop, as they so often do now, with a knowledge of past architectural form. Having gained such knowledge—and may I say that what I am advocating does not imply that there is no necessity for the study of past form?—let us go further and investigate the structural origins of the forms, the root principles, which, acting through the constructive problem, the material used, and the personal factor of the craftsman, produced these forms. Then let us be true to our own age and our own art and go forward. Let us so build that this age shall take its place among those of the past, that the men of the future shall learn from our work not merely the wideness of our scholarship and the high development of our imitative faculties, but what manner of men we really were."

ARCHITECTURAL SOCIETIES.

Birmingham Architectural Association: Reason or Fashion in Architecture.

AT the eighth general meeting, held at the Association's Rooms in Exchange Buildings, Stephenson-street, on the evening of Friday, February 6, the President, Mr. G. Salway Nichol, in the chair, Mr. H. P. G. Maule, F.R.I.B.A., delivered a most thoughtful and inspiring lecture on the subject of "Reason or Fashion in Architecture."

The lecturer pleaded for a more broad-minded conception of the possibilities of architecture, for buildings which stood true to the purposes for which they were erected, and gave some distinct visual indication of the uses for which they were intended instead of outwardly smothering up all traces of plan and construction in a dress copied from some architectural fashion-plate as unfortunately is often the case to-day.

The lecturer was of opinion that with the exercise of a little more imagination it should be quite possible to erect a building, of whatever material, amply fulfilling modern requirements in every way and still being sound architecture.

That we were as yet unable to express ourselves architecturally in steel might be attributed to the possibility that steel construction was as yet in a transitional stage, and therefore we smothered it up in other materials with which we have for many ages been familiar; in the same way that the first motor-cars were made to resemble the horse-drawn vehicles and the first steel warships in the likeness of the sailing vessels of a former age.

It was pointed out that the human character of a nation in the past always showed itself outwardly in its architecture and that the architecture of a period, past or present, must have some prototype in the national life; therefore, considering the rapid changes and far-reaching discoveries which have almost completely revolutionised the life of our nation during the last hundred years, it is little wonder that our architecture has been patchy and full of fickle changes of fashion and reason; and we must be thankful that England does still possess, to say the least of it, a sane domestic architecture (although of largely diversified styles), whatever may be said of other phases.

The old styles, national, local, and imported, are to us a glorious heritage, and as each age is, in the course of its evolution, in a large measure the outcome of what has gone before, therefore it would appear that it is in the right order of things that we of

to-day should take from honest old styles and absorb to ourselves those features and modes of architectural expression which are applicable to modern conditions and requirements, without becoming mere copyists. Slavish copies of old work must be condemned as the height of foolishness, and the lecturer expressed the opinion that what was required of present-day architects was a greater power of imaginative conception—a condition of mind which, while accepting what was best from old work, could give to a building in all its features a clear indication of the spirit of the age, or producing something that was equally original and sound.

Architecture being a constructional art, certain extents and limits have come to be recognised as desirable, but such terms as "proportion," "symmetry," "balance," and "the grand manner" (beloved of certain schools) become almost empty phrases if it is attempted to give effect to their meanings in practice without the power of a critical imagination.

It was considered that the general development of plan form would result in sounder architectural qualities.

A vote of thanks to the lecturer was proposed by Mr. Gerald McMichael, seconded by Mr. C. E. Bateman, and supported by Messrs. A. S. Reeves, J. A. Swan, Bernard A. Porter, and H. T. Buckland.

Nottingham and Derby Architectural Society.

On the 3rd inst. Mr. A. H. Bromley, F.R.I.B.A., gave a lecture, illustrated by lantern slides, entitled "A Short Architectural Tour to the United States and Canada." After describing the New York Harbour, which is considered one of the finest in the world, he spoke of the remarkably picturesque effect which the tall buildings produced as seen from the steamer approaching the city. As regards the buildings, he stated that the best buildings were generally absolutely first class; there appears to be very little second best; and the third he found deplorable; words, however, can scarcely describe the best buildings. Cost appeared to be little considered, and the buildings were frequently finished with exquisite taste and workmanship. Mural paintings were introduced in the decorations of the buildings by the very best artists. And, to give some idea of their cost, he found as much as £6,000 spent in the decoration of the vaulted ceiling of a restaurant.

Many of the best buildings were erected in marble and light granite, and as most of the cities are entirely free from smoke the effect was exceedingly beautiful. The skyscrapers, with one or two exceptions, are unsightly, and, in Mr. Bromley's opinion, unnecessary, except in a modified degree, for there yet remains a large amount of defective property in New York which might well come down and be replaced with new buildings. New York, however, is restricted in area, and the foundations exceptionally difficult. At the same time one cannot help admiring the great daring and skill of the engineers of these tall buildings, but the excessively high ones appear to be erected for advertisement and a desire to beat the world. The New Grand Central Railroad Station and Pennsylvanian Railroad Station at New York and the station at Washington are remarkably fine, and the interiors are exceedingly spacious and beautiful. The New Central Station is lined throughout with polished marble of a quiet tone, and the waiting-halls are quite separate from the trains. But the less said about the average railway-station in America the better. The elevators used in the hotels are remarkable; and in the new Woolworth building the huge sum of £160,000 has been spent on lifts alone. The libraries, museums, and public buildings of this class are a credit to the nation, and are frequently built of marble and are of simple Classic design. Washington is a beautiful city of which Americans may well be proud; but here again the second and third-class buildings somewhat detract from the fine public buildings. Some of the new industrial works are splendidly laid out and equipped, and the management is such that one firm is able to turn out as many as 800 to 1,000 motor-cars a day. The figures given read like fairy stories, and it is difficult to believe the figures without seeing for one's self. The successful management and lay-out of industrial works is due in a great measure to the American mind being able to understand plans, and the client will decide upon all his requirements, such as machines and positions of same, heating, lighting and ventilating arrangements, etc., before a brick is laid. The recognised scale of architect's charges for competition and better-class buildings is 6 per cent. in America, as against 5 per cent. in this country. Workmen's dwellings are disappointing considering the high wages obtained, and the modern blocks of flats in New York are distinctly bad.

Mr. Bromley wishes to add that it would perhaps be a subject of surprise that he made no reference to the better-class domestic architecture, but he omitted doing so because he came across no examples worthy of note. That there are some good examples to be found for the seeking there can be no doubt, but he considers that the English are supreme in this department of architecture, and some of our publications which illustrate architecture in England are the finest in the world.

The Architectural Association of Ireland: Annual Dinner.

The annual dinner of the Architectural Association of Ireland was held on January 29 in the Gresham Hotel, Dublin. Professor W. A. Scott, A.R.I.B.A., President of the Association, occupied the chair. There were ninety members and guests present.

On the call of the Chairman the toast of "The King" was cordially honoured.

Mr. W. M. Paton, in proposing the toast of "Our Guests," said that Ireland led the way among the nations of the earth in her lavish hospitality and generosity.

Sir George Roche, in responding, said that the architects' profession was in no way falling off in Ireland, and they might well be proud of the many monuments and beautiful buildings they had erected throughout the land. They had also done much important work in the upkeep of the old towers and churches which in days gone by were the pride of Ireland.

Mr. C. P. Boland, Chief Valuer Valuation Office, paid a tribute to the standard of excellence attained by the architects' profession in Ireland.

Mr. W. Charlton, of the Board of Works, also responded, and said that every profession owed a debt to architecture.

Mr. R. Caufeild Orpen, P.R.I.A.I., in proposing the toast of "The Architectural Association of Ireland," mentioned that he had been honoured by being elected the first President of the Architectural Association. The Association was never in a more prosperous condition than it was to-day, and this was in a large measure due to the zeal and ability of the Hon. Secretaries. The class-work which was carried out on new lines this year had been highly successful, and it was encouraging to find so many members of the Association preparing themselves for the Studentship Examination of the R.I.A.I. The correlation of the senior and junior bodies could not but be mutually helpful. He coupled with the toast the name of Professor Scott.

Professor Scott, the President, in responding, said that the Institute of Architects was in the most friendly relations with them. The Architectural Association prepared the way for membership to the Institute, and their classes were becoming a medium of studentship to the Institute. Their work was going on apace, and their classes were very well attended.

The toast of "The President" was proposed by Mr. G. L. O'Connor.

Mr. O'Brien Smyth presented the O'Brien Smyth Golf Cup to Mr. Louis Deane, who suitably returned thanks.

Mr. A. E. Murray, R.H.A., proposed the health of the Hon. Secretaries and complimented them on the prosperity of the Association. Mr. Harry Auberry and Mr. H. J. Lundy having replied, the proceedings terminated at a late hour with "Auld Lang Syne."

The Architectural Association of Ireland.

An ordinary meeting of this Association was held in Dublin on February 5, Mr. W. M. Paton, A.R.I.B.A., occupying the chair, in the absence of the President. Mr. Thomas Tomlinson read a paper on "Electric Lighting for Architects," the subject of which mainly treated of installation for private houses. The lecturer described the various tests for good work, and illustrated his remarks by exhibiting samples of cables, flexible switches, and other electrical requirements. Mr. T. E. Hudman proposed, and Mr. G. L. O'Connor seconded, a vote of thanks to Mr. Tomlinson, which was passed with acclamation. An exhibition of students' work is being held in the A.A. Hall, 15, South Frederick-lane, Dublin, from February 9 to 25.

COMPETITION NEWS.

It must be understood that the following paragraphs are printed as news, and not as advertisements; and that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

The list of current Competitions is printed on page 205.

Recreation Grounds, Seaford.

At the meeting of the Seaford Urban District Council on Monday the Surveyor brought up a report for the laying-out of 10 acres of land on The Salts as a recreation ground. This report provided for the following works:—Laying-out grounds, draining yacht pond, tennis and bowling greens, and making roads and paths, £1,400; boundary fencing, £500; retaining walls, £1,250; surf wall on parade, £440 excavations, £975; filling in, £1,125; seats, £100; planting trees and shrubs, £300; total, £6,090. The Surveyor also presented a sketch and estimate for an open-air swimming-bath, 75 ft. by 28 ft., with fifty dressing-boxes and sea-water supply, at an estimated cost of £2,650. The General Purposes Committee recommended that invitations be issued for competitive schemes for laying-out the grounds, and that the Council offer a first premium of £75 and a second premium of £25, the plans securing premiums to become the property of the Council. The schemes sent in are not to exceed £3,000 in cost, and are to include the laying-out of the ground, draining, yacht pond, tennis and bowling greens, the making of roads and paths, retaining walls, seats, planting trees and shrubs; sites to be reserved for swimming-bath, shelters, bandstand, tea-rooms, public conveniences, sand-pit, children's playground, and kursaals.—The recommendations were adopted.

Plans for Workmen's Settlement, Belgium.

The Belgian Legation in London has notified the Foreign Office that the Belgian Government has organised a competition in connection with the planning of a workmen's settlement for the Campine coalfield. Sealed proposals, accompanied by plans, must be submitted, not later than 4 p.m. on December 31, 1914, to "M. le Président de la Commission pour l'Aménagement des Agglomérations Industrielles du Bassin Houiller de la Campine, Ministère de l'Intérieur, rue de Louvain, No. 3," Brussels, from whom copies of the programme of the competition can be obtained. Prizes of 10,000 frs. (£400) and 6,000 frs. (£240) are offered. Plans of the Campine district may be obtained from the "Bureau des Adjudications du Musée Commerciale, rue des Augustins," Brussels, on payment of 2 frs. (about 1s. 7d.). A copy of the programme (in French) of the competition may be seen by United Kingdom architects, etc., interested, at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, London, E.C.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, S.W., Mr. Cyril Cobb, Chairman, presiding.

Much regret was caused by the announcement of the resignation of Sir Laurence Gomme, the Clerk of the Council, owing to ill-health. Sir Laurence Gomme had served as Clerk to the Council for thirteen years, and has been a public official for forty-one years.

Tenders.—Tenders were received for repairs to gas meters at the Council's schools, for the installation of a boiler at the Hammersmith Technical Institute, and for electrical fittings, etc., at the Crossness Pumping Station.

The Crystal Palace.—A recommendation was moved by the Chairman of the Parliamentary Committee to the effect that the Crystal Palace Bill, 1914, should be approved. An amendment was moved that the Bill should be approved subject to provision being made in it that no intoxicants be sold in any part of the Palace when open free to the public. This amendment, however, was rejected.

Road Board Grants.—In a report dealing with the cost of road repairs it is suggested that

a public inquiry be made into the subject of the distribution by the Road Board of its funds.

District Surveyor.—The Building Acts Committee recommended that Mr. W. J. Hardcastle, at present District Surveyor for Finsbury, should be appointed District Surveyor for St. George, Hanover-square North.

Appointment of Assessor.—In a report of the Education Committee it was recommended that Mr. John W. Simpson, F.R.I.B.A., should be appointed as assessor in the open competition for designs for the schools to be erected on the Billingsgate-street, Greenwich, and Linda-street, Battersea, sites.

CORRESPONDENCE.

Competitions: The New Style.

SIR,—The enclosed particulars of a forthcoming newspaper competition have been brought to my notice. What do you think of it? And is it desirable for architects to compete? It seems to comply with the usual regulations for competitions, but I have vague doubts as to whether it is really in the interests of the public or the profession to which I have the honour to belong. MAURICE E. WEBB.

TOWN LIVERS NEWSPAPER COMPETITION FOR ARCHITECTS.

BARGAINS FOR TENANTS, PUBLICITY FOR ARCHITECTS AND "TOWN LIVERS."

"The proprietors of *Town Livers* have for long observed the crying need for the proper provision of housing facilities for motor and other bicycles in town gardens. The landlords will not provide them; the architects do not, as a rule, design them.

Town Livers now comes to the rescue of both parties. A *middleman* is necessary in these days to introduce the architect to his public, the public to its architects, hence this great newspaper competition of almost international importance for bicycle sheds.

The *Town Livers* newspaper has succeeded in obtaining the support of many town landlords to a scheme for a competition amongst architects for the best design for bicycle sheds to be erected in town gardens in London and the large provincial towns. As the conditions differ in each town, *Town Livers* has decided to divide the competition into sections—one shed in each town.

No one may compete for more than two, and no landlord undertakes to erect more than one in his back or front garden, as the case may be, but, of course, each landlord will employ the winning architect in his section at the full scale of usual fees, namely, *5 per cent.* on the cost of the one erected, which must not in each case exceed a figure to be stipulated by *Town Livers* in the detailed conditions of the competition.

Two landlords in London and ten landlords in widely-scattered provincial towns have already agreed most public spiritedly to erect these sheds. This will add immensely to the fun for architects, because there will be a clause in this competition run by *Town Livers* that the winner in each section will be employed to carry out the work unless he lives so far from the site that the owner may exercise his right to employ a resident architect or other person—possibly his own agent—to supervise the work, in which case the architect, as is the custom of the profession, will be required to share the fees with such person, agent or architect.

A jury of highly-respected members of the profession and others interested in this great problem will be asked by *Town Livers* to adjudge the designs sent in in each section. Their decision will be final.

Handsome prizes, in addition to the carrying out of the actual work, will be awarded to the winners in each section by *Town Livers*, and the proprietors of *Town Livers* have little doubt that this competition will be one of the most important ever brought to the notice of the architectural profession. Full particulars, with the detailed conditions, will be published in the next issue of *Town Livers*, obtainable at all bookstalls for 6d., or post free 7d. Everyone is eligible over the age of ten."

Heating of Small Country Schools.

SIR,—The heating of small country schools is a matter which occasions some considerable amount of thought and anxiety. In Derbyshire it is usual to use hot water, and we have been using wrought-iron boilers with an extension leg to take the return as it comes below the floor surface. It is surprising to find how very few firms make a boiler such as one could use for this purpose, and I am writing this letter in the hope that it may catch the eyes of manufacturers, in which case I should feel obliged if they would send me particulars of any boilers they make which would be suitable for the purpose.

The boilers should have folding doors in front so that either an open or closed fire can be obtained, and the fuel burnt should be coal, as it is intended that these boilers shall stand in one of the classrooms. In addition to the doors, the other points necessary are a neat and sightly appearance and economy in cost. They should, of course, be of varying sizes and capable of heating up to about 800 sq. ft. of heating surface.

If any manufacturer would wish to go further into the matter and would write to me direct I should be pleased to give any information that may be required.

GEORGE H. WIDDOWS.
County Education Office,
S. Mary's-gate, Derby.

The Machinery Users' Association.

SIR,—Our clients, the Machinery Users' Association (Incorporated), understand that you have received a communication from Messrs. Humphreys-Davies & Co., dated January 27 last, which contains a statement that his firm have severed their connection with our clients' Association.

Our clients instruct us to inform you that the above statement is incorrect and improper. The fact is that on January 17 last our clients were advised, for reasons which were wholly adequate, that there was no other course open to them but to peremptorily terminate Mr. Humphreys-Davies' engagement as their surveyor; they also, on January 20 last, instituted proceedings in the Chancery Division against him and the Manufacturers' Association, Ltd.

We enclose copy of a letter dated the 4th inst. which has been sent to all the members of our clients' Association, and to all firms and associations to whom our clients have reason to believe Messrs. Humphreys-Davies & Co. addressed their communication, and which letter contains a true statement of the position.

Should you have given publicity to Messrs. Humphreys-Davies & Co.'s statement, we must ask you in fairness to extend equal publicity to our clients.

GUSH, PHILLIPS, WALTERS, & WILLIAMS.

[**** The letter from the Machinery Users' Association referred to explains their position, but we cannot give it in full for want of space, though the following passage may be quoted:—

"It is, however, necessary to emphasise the fact mentioned in my circular letter of the 19th January, that the severance of the connection proceeded from the Association and not from Mr. Humphreys-Davies, and that the Committee are prepared to justify the step at the proper time and place. Mr. Humphreys-Davies has, of course, the opportunity, if he thinks fit, of challenging the justice and propriety of the Committee's action, but he has not yet availed himself of that opportunity.—ED.]

Amending Lowest Tender.

SIR,—I think attention of builders should be called to the extraordinary conduct of the Bermondsey Borough Council in regard to the building of a new convenience in Joiner-street, S.E. Last November they advertised in the *Builder* for tenders, and these were sent in on November 25. The list was published (eleven tendered), and the lowest tender was £1,296 and the next lowest £1,593; and now, after nearly two months, I am informed that the Council have allowed the lowest tender to be amended to the tune of over £100. Surely such conduct on the part of a public body calls for severe condemnation, as such a policy deals a heavy blow to one's faith in public tendering. I should be glad to have the opinion of your powerful paper on this point. CONTRACTOR.

[**** Letters on "Wells Cathedral" and "Church Architecture" are held over until next week for want of space.—ED.]

INTERCOMMUNICATION COLUMN.

Patches on Walls.

SIR,—I want to move into a house in this neighbourhood (Brighton) which has only been built a year. Although it has already been inhabited for some months, there are still patches showing through the wallpaper, which *feel damp to the touch*, especially on the outside wall, which was cemented on the outside when the house was built. The builder, who is also the landlord, assures me that these patches are *not* caused by damp. If this view is correct, to what are the patches attributable? Should a house be quite dry after the lapse of a year since the time of building, and do you think I could inhabit the house with safety in March in the condition I have described to you in this letter? There is a cellar beneath. H. E. L.

GENERAL NEWS.

Professional Announcement.

Mr. Horace Cubitt, A.R.I.B.A., of 227 and 228, Strand, W.C., has taken into partnership Mr. W. Harold Jones.

The Admiralty Arch.

The Phœnix Assurance Company has addressed a letter to the Westminster City Council and the Board of Works, agreeing to facilitate the proposed Mall improvement by selling such part of their land as was required for that purpose on favourable terms.

The Surveyors' Institution.

The President of the Board of Agriculture and Fisheries has consented to receive a deputation from the Council of the Surveyors' Institution on the subjects of Farm Labourers' Wages, Rural Housing, and Land Tenure.—Messrs. G. E. Gregson, Coard Squarey Pain, and J. Marcus Rea will represent the Surveyors' Institution at the Royal Sanitary Congress at Blackpool in July next.—Mr. Henry Hartley has been nominated by the Council of the Institution to give evidence before the Departmental Committee on Factory Lighting, which has been set up by the Home Secretary.

The Venice Exhibition of Fine Arts.

The biennial International Exhibition of Fine Arts will be opened in Venice on April 15. The Art Committee (British) for this year consists of Mr. Arnesby Brown, A.R.A., Professor Gerald E. Moira, and Mr. John Tweed, the sculptor; the Hon. Secretary is Mr. Marcus B. Huish, of No. 21, Essex Villas, Phillimore-gardens, W. The British Committee will bear all expenses of artists (insurance excepted), including carriage of exhibits from door to door.

Clifford's Inn and the Record Office.

Mr. P. E. Pilditch, as arbitrator, has given his decision in the matter of Mr. William Willett's claim against H.M.'s Office of Works for the sum of £53,450 as compensation in respect of the taking of 7,900 ft. super. of land in Clifford's Inn, in pursuance of a scheme for enlarging the Record Office between Chancery and Fetter lanes. Mr. Willett bought the Inn for £100,000 eleven years ago, when the property was offered for sale at auction as a building site of 38,000 sq. ft., and has since opened the garden as a place of public resort. Upon his behalf a valuation of £50,593 was submitted by Mr. C. A. Lang, Mr. J. D. Matthews, and Mr. Wallace Elliot; and one of £52,394 by Mr. Edwin Fox and Mr. Samuel Walker. *Per contra*, Mr. Chatfeild Clarke, Mr. Leslie Vigers, Mr. Townsend Green, and Mr. Howard Martin supported valuations ranging from £13,000 to £17,000. Mr. Pilditch has fixed the amount of compensation payable by the Crown at £30,600.

Another Old London Market Doomed.

The Office of Works and the Westminster City Council have jointly resolved to carry out a scheme that involves the removal of the narrow footways which connect St. James's Market with Market-street and Haymarket. The property belongs to the Crown. It will now be traversed by a new road 30 ft. wide, leading into Haymarket. The western portion of the original market was taken at the time of the laying-out, by Nash, of Waterloo-place and Regent-street. The market, for meat and produce, and famous for its veal, with its market-house, wherein Baxter preached, and "One Tun" and "The Mitre" taverns, was built in 1666 by Henry Jermyn, Earl of St. Albans. In Market-street lived Hannah Lightfoot, whom George III., when Prince of Wales, saw there when passing through on his way between Leicester House and St. James's Palace.

Leading Contents.

	PAGE.
A NEW ATTITUDE TOWARDS OLD BUILDINGS	181
THE BRITISH SCHOOL AT ROME	182
THE NEW ART GALLERY, MONTREAL	184
PICTURE EXHIBITIONS	184
THE ROYAL INSTITUTE OF BRITISH ARCHITECTS: PRESIDENT'S ADDRESS TO STUDENTS	185
ROYAL ACADEMY LECTURES ON ARCHITECTURE	187
THE CARPENTERS' HALL LECTURES: "THE ORIGIN OF FORM IN THE BUILDING CRAFTS"	187
ARCHITECTURAL SOCIETIES	189
THE LONDON COUNTY COUNCIL	190
CORRESPONDENCE	191
THE INSTITUTE OF SANITARY ENGINEERS: ANNUAL DINNER	192
CONSTRUCTION SECTION:— "WESTMINSTER HOUSE," MILLBANK	193
THE CONCRETE INSTITUTE: "STANDARD METHOD OF MEASUREMENT FOR REINFORCED CONCRETE"	194
MIDLAND ADELPHI HOTEL EXTENSION, LIVERPOOL.—II.	196
THE BUILDING TRADE:— THE STRIKE CLAUSE IN A CONTRACT	200
FRUITS OF LABOURISM	200
PAINTERS AND PAINT MANUFACTURERS	201

ILLUSTRATIONS.

The Madonna di Loreto and Del Nome di Maria Presso, and Trajan's Column.

WE illustrate another of Piranesi's engravings from "Le Vedute Romane."

Music-Room at "Clonboys," Englefield-green.

THIS music-room is to be added to a house of no particular architecture, about twenty years old. The materials are to be whitewashed brick and Roman tiles.

An entrance hall is also being added and the existing entrance remodelled.

Midland Adelphi Hotel, Liverpool.

THE illustrations which we give this week of the Midland Adelphi Hotel, Liverpool, are given in connection with an article on page 196 of this issue, where other constructional illustrations will be found.

MEETINGS.

FRIDAY, FEBRUARY 13.

Leicester and Leicestershire Society of Architects.—Rev. E. I. Fripp on "The Place and Function of Iron in Architecture." 8 p.m.

Architectural Craftsmen's Society, Glasgow.—Mr. Donald Gair on "The Restoration of an Historical Building." 7.45 p.m.

Royal Sanitary Institute.—Mr. Charles Porter on "Duties of a Sanitary Inspector." 7 p.m.

MONDAY, FEBRUARY 16.

Architectural Association.—Professor Selwyn Image on "The Serious Art of Thomas Rowlandson." 8 p.m.

Royal Society of Arts.—Mr. J. Pennell on "Artistic Lithography." 8 p.m.

Royal Academy of Arts.—Sir Charles Waldstein on "Sculpture." 4 p.m.

Royal Sanitary Institute.—Dr. A. Greenwood on "Elementary Statistics." 7 p.m.

University of London (Victoria and Albert Museum).—Mr. Banister Fletcher on "Renaissance Architecture." 5 p.m.

Institute of Sanitary Engineers.—Mr. F. R. O'Shaughnessy on "The Significance of Colloidal Matter in the Problem of Sewage Disposal." 8 p.m.

TUESDAY, FEBRUARY 17.

Institution of Civil Engineers.—Mr. Adam Scott on "The New Harbour-Works and Dockyard at Gibraltar." 8 p.m.

Illuminating Engineering Society.—Discussion on "The Lighting of Picture Galleries and Art Studios." 8 p.m.

University of London (British Museum).—Mr. Kaines Smith on "Greek Art and National Life." 4.30 p.m.

WEDNESDAY, FEBRUARY 18.

Royal Society of Arts.—Mr. A. J. Wallis-Tayler on "The Preservation of Wood." 8 p.m.

London Master Builders' Association.—Annual dinner, at the Whitehall Rooms. 6.30 p.m.

Carpenters' Hall, London-wall (Lectures on Arts Connected with Building).—Mr. H. W. Wills on "The Case for the Jerry-Builder." 7.45 p.m.

Royal Sanitary Institute.—Dr. A. Greenwood on "Water: Composition, Pollution, and Purification." 7 p.m.

THURSDAY, FEBRUARY 19.

Leeds and Yorkshire Architectural Society.—Mr. P. Abercrombie on "Some Contrasts between English and Continental Towns and Town Life." 6.30 p.m.

Society of Antiquaries.—8.30 p.m.

University of London (British Museum).—Mr. Banister Fletcher on "Ancient Architecture." 4.30 p.m.

University of London (Victoria and Albert Museum).—Mr. Kaines Smith on "The Nature of Beauty." 3.30 p.m.

FRIDAY, FEBRUARY 20.

Institution of Mechanical Engineers.—Mr. Thomas T. Heaton on "Some Modern Methods of Welding." 8 p.m.

Royal Sanitary Institute.—Dr. A. Greenwood on "Infectious Diseases." 7 p.m.

THE INSTITUTE OF SANITARY ENGINEERS:
ANNUAL DINNER.

THE annual dinner of the Institute of Sanitary Engineers was held on Wednesday, the 4th inst., at the Holborn Restaurant. The President, Mr. J. D. Watson, M.Inst.C.E., was in the chair, and was supported by Sir William Ramsay, K.C.B., Professor Henry Adams, Dr. H. R. Kenwood, Mr. H. Percy Boulnois, Mr. E. T. Hall, and others.

After the loyal toasts had been honoured,

Mr. H. Percy Boulnois

proposed the toast of "Our Public Health Authorities," and in the course of his remarks said the public health authorities were not as black as they were painted. His experience was that the majority of the members of public authorities were there for the improvement of the human race, seeing that their towns were kept in a healthy and sound condition. There were a great number of public authorities—335 municipal corporations, twenty-eight metropolitan boroughs, 809 urban district councils, 655 rural district councils, and sixty-one port sanitary authorities. Carlyle divided the human race into two parts—the anvils and the hammers; but he thought they might divide them into the inspectors and the inspected. With all the health machinery, however, that existed, the public only had very vague ideas of what health really meant. He remembered hearing a tale of a man who stopped up his windows and chimneys in order to keep the measles out.

Dr. H. R. Kenwood,

in responding, said that he believed local authorities had done a very great work in the past, they were doing a great work now, and were destined to do even greater work in the future, and, all things considered, they had done their work with clean hands. The local authorities unfortunately were not always models from the officials' point of view. Very often the committees were composed of men who at first knew nothing about their work. The officials had first to teach them, and when they had been trained in the work for about a year they were again shuffled and new men placed upon the committee. Another fault was the introduction of party politics into public health authorities. Why should party politics be introduced? They shackled judgment and reason and did a great deal to bring about acrimony in debate, and he thought it was a great pity that sanitary authorities should introduce such matters.

Mr. H. T. Wakelam,

who also responded, said that he did not agree that there were too many local authorities. He thought there ought to be more, because then they would find work for the members of the professions that he saw around him. He hoped that the public authorities would prosper and that they would in the future do more than they had done in the past to maintain and improve public health.

"The Institute of Sanitary Engineers" was then proposed by Sir William Ramsay who, in the course of his remarks, said that it seemed to him that the members of the Institute had a very difficult task to do, as they had to know something of everything. They might be likened perhaps to the physiologist, who not only had to be an anatomist, but something of a chemist, and also something of a physicist. Another difficult task they had to perform was to keep on good terms with a number of public bodies. They had to look after sanitation, not merely to defend the public from the attacks of disease germs, but also to make things more convenient. But was it right that people should be so coddled? Were we not doing something to prolong the lives of the unfit, and would not it be better if such people took their chance and died out? We should at all events get rid of them, and could only hope that the next generation would be the better for their absence. The whole tendency, however, was in the other direction. We insisted upon our children being educated, and found that they were starving, and so we had to give them breakfast. We found they came with leaky boots, and had to give them boots. We should soon find that they were insufficiently clothed, and we should have to clothe them. He asked, where was it going to stop? That was the sort of question which would face them some day, but in thinking things over it seemed to him that the solution was, as usual, to be found in a happy medium. When he saw people being legislated for and looked after so much and everything being done for them he thought he would rather they did it for themselves.

In acknowledging the toast, the President said that theirs was a comparatively young and vigorous institution. It had between five and six hundred members who were all active exponents of that branch of applied science which related to public health works. As sanitary inspectors it was their duty to be in the van of progress, and considerable responsibility rested upon them. The lead they gave to public opinion might create the driving power required to convert a public health measure into an Act of Parliament, or it might take another direction and tend to educate the people to form habits which were even more powerful than Acts of Parliament. Every sanitarian had been of opinion for years that there was nothing so much required in this country as healthy workmen's houses, and yet their efforts to enforce their convictions upon the Legislature had been feeble. Their influence was less than it ought to be, and their aim should be to increase that influence as much as possible, to forward the objects for which they stood.

Mr. E. H. Blake proposed the toast of "Kindred Institutions," and in the course of his remarks said if they were to give technical education to the poor it would have to be in a very simple language or it might become a case of a little knowledge being a dangerous thing.

In responding, Mr. E. T. Hall said that all the kindred bodies were composed of men who were keen on their work and who took part in that work having their heart and soul in it.

Mr. H. C. H. Shenton was also associated with the response.

Professor Henry Adams then proposed the toast of "The Visitors," and, in responding, Mrs. H. Percy Boulnois said that women were now called upon to take an intelligent interest in the questions of the day, and she advised women to interest themselves in the questions, and in her opinion nothing in life would be complete unless they all worked together as their capabilities enabled them to do.

Sir William Ramsay also responded, and the proceedings came to a close.

FIFTY YEARS AGO.

EXTRACT from the *Builder* of February 13, 1864:—

Mr. Rowe expressed his opinion that the title of City Architect should be maintained, and that the proposed salary was not sufficient; he suggested that the amount should be £1,500 instead of £1,200 per annum. He moved an amendment, embodying both these alterations, to the report.

Alderman J. C. Lawrence said that he did not believe that any eminent man would be found to accept the office for less than £2,000 per annum, and he proposed an amendment to that effect, which was seconded by Mr. G. J. Cockerell.

The proposition of Mr. Rowe was, however, eventually carried, and the report, thus amended, was then agreed to.

[*** This shows that fifty years ago people were more liberal in their estimation of professional salaries than they are now, despite the fact that at present "our food costs more."—ED.]

NEWSPAPER GUIDE.

Messrs. C. & E. Layton, of 56, Farringdon-street, E.C., have issued their 1914 *Handy Newspaper List*. All information necessary to advertisers, publishers, and others about the newspapers, magazines, and periodicals published in the United Kingdom is given in as concise and accurate a manner as possible. The book is published at the price of sixpence.

RAJAN'S COLUMN.

that they were starving, and so w
ve them breakfast. We found the
leaky boots, and had to give them
e should soon find that they were
ly clothed, and we should have to
m. He asked, where was it going
That was the sort of question which
them some day, but in thinking
it seemed to him that the solution
al, to be found in a happy medium.
aw people being legislated for and
er so much and everything being
hem he thought he would rather
for themselves.

owledging the toast, the President
heirs was a comparatively young
ous institution. It had between
x hundred members who were all
nents of that branch of applied
ch related to public health works.
inspectors it was their duty to be
f progress, and considerable respon-
d upon them. The lead they gave
nion might create the driving power
convert a public health measure
of Parliament, or it might take
ection and tend to educate the
rm habits which were even more
han Acts of Parliament. Every
ad been of opinion for years that
othing so much required in this
ealthy workmen's houses, and yet
to enforce their convictions upon
ture had been feeble. Their
less than it ought to be, and their
be to increase that influence as
ssible, to forward the objects for
stood.

. Blake proposed the toast of
stitutions," and in the course of
said if they were to give technical
the poor it would have to be
mple language or it might become
ttle knowledge being a dangerous

ing, Mr. E. T. Hall said that all
odies were composed of men who
their work and who took part
having their heart and soul in it.
H. Shenton was also associated
onse.

Henry Adams then proposed the
e Visitors," and, in responding,
Boulnois said that women were
on to take an intelligent interest
ns of the day, and she advised
erest themselves in the questions,
pinion nothing in life would be
ss they all worked together as
es enabled them to do.
Ramsay also responded, and the
me to a close.

TY YEARS AGO.

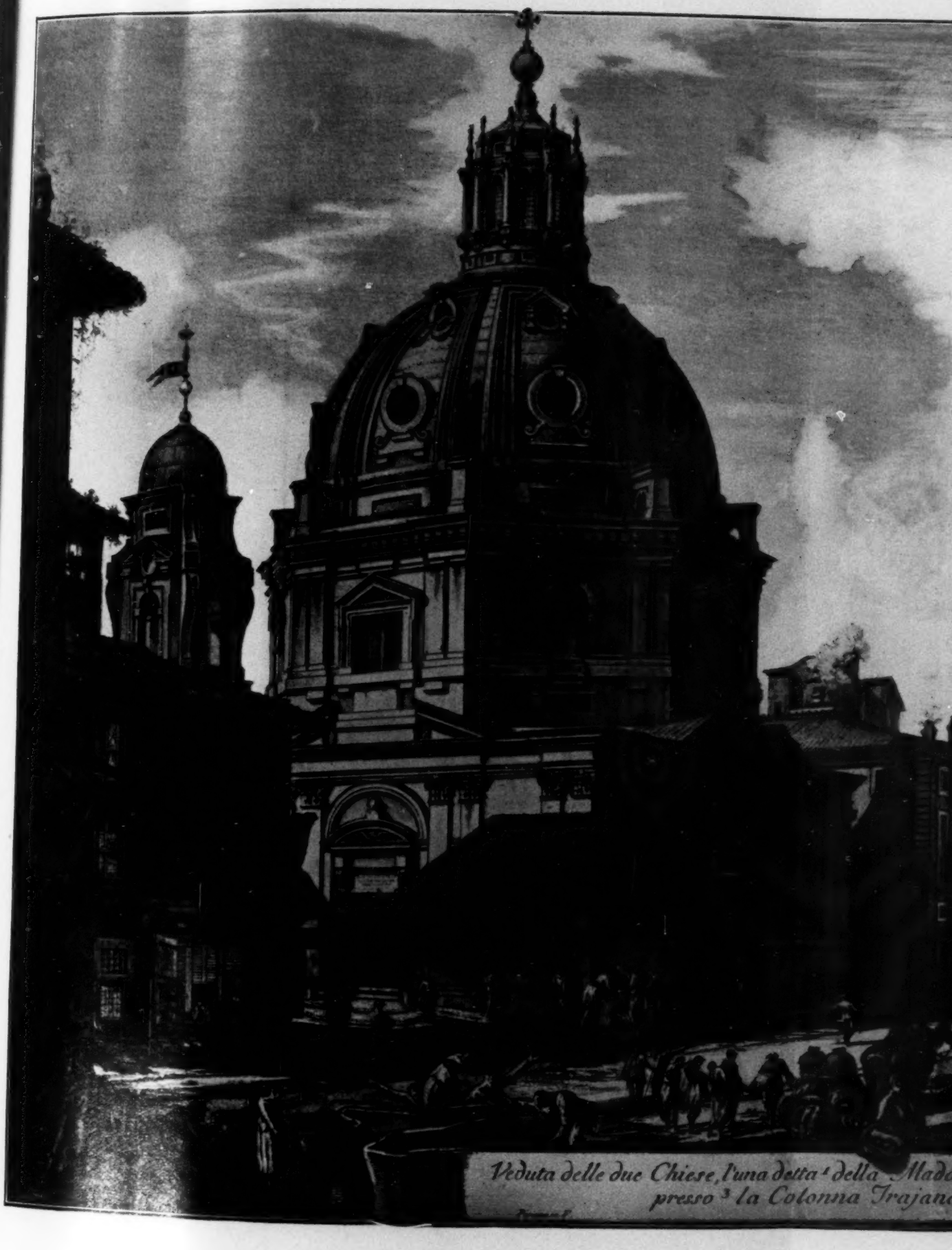
om the *Builder* of February 13.

xpressed his opinion that the
rchitect should be maintained,
proposed salary was not suffi-
ested that the amount should
stead of £1,200 per annum.
amendment, embodying both
ns, to the report.
C. Lawrence said that he did
t any eminent man would be
pt the office for less than
num, and he proposed an
o that effect, which was
r. G. J. Cockerell.
ion of Mr. Rowe was, how-
carried, and the report, thus
hen agreed to.

ws that fifty years ago people
eral in their estimation of
laries than they are now,
that at present "our food
ED.]

WSPAPER GUIDE.

E. Layton, of 50, Farringdon-
ve issued their 1914 *Handy*
All information necessary to
ishers, and others about the
gazines, and periodicals pub-
ited Kingdom is given in as
urate a manner as possible.
ished at the price of sixpence.



VIEW OF TWO CHURCHES, THE MADONNA DI LORETO AND

(From Piranesi's "Le

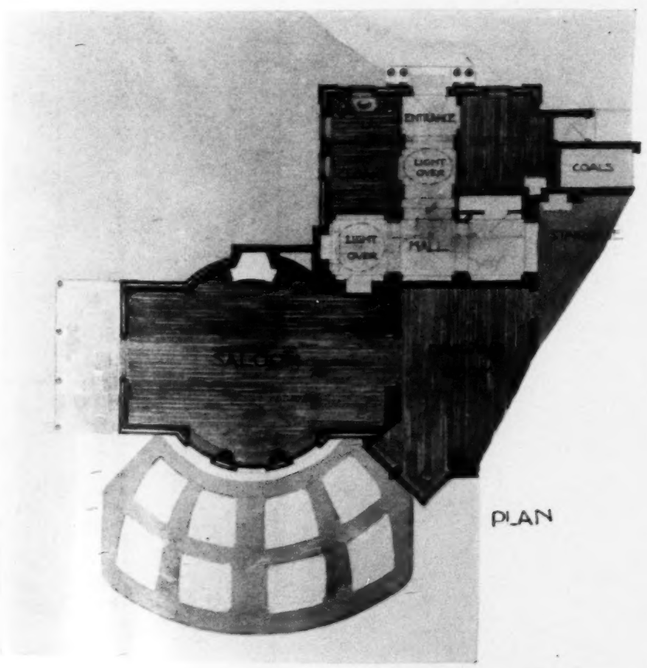
TO AND DEL NOME DI MARIA PRESSO, AND TRAJAN'S COLUMN.

nesi's "Le Vedute Romane.")

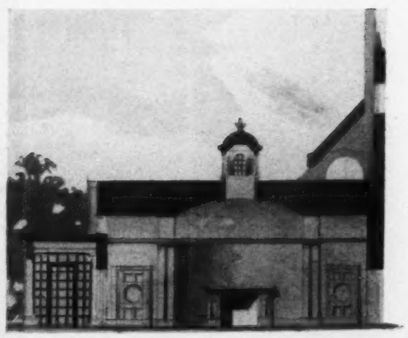
GARDEN FRONT

ENTRANCE FRONT

END

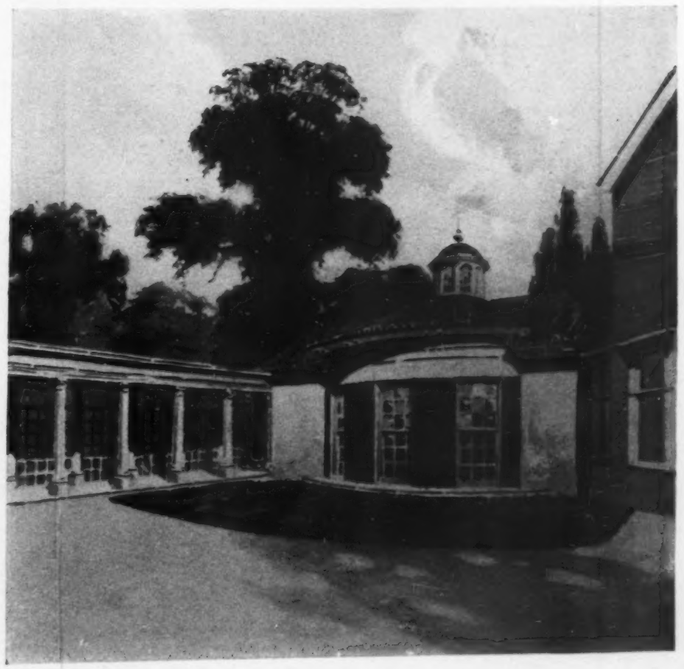


PLAN



SECTION

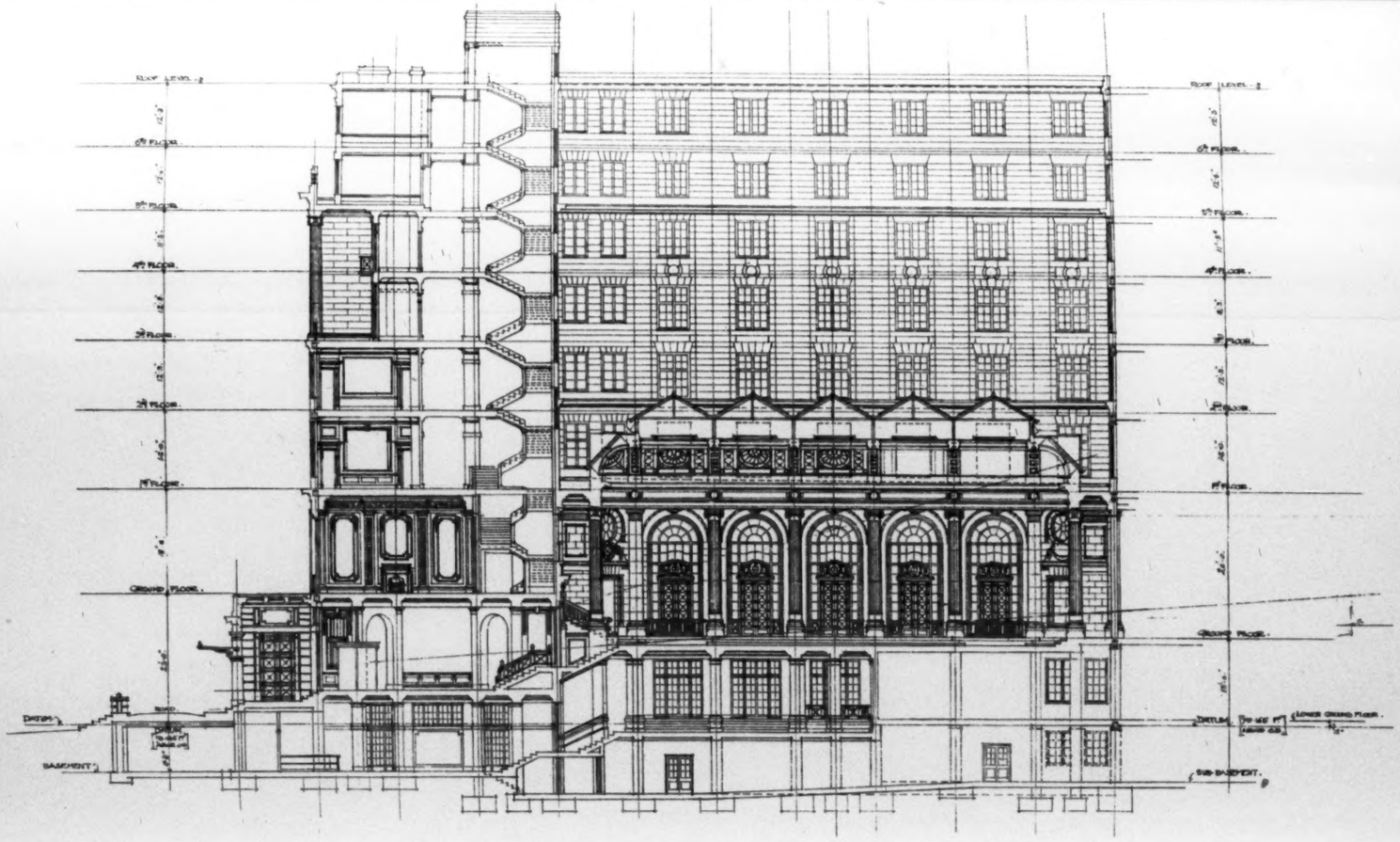
PROPOSED ADDITIONS TO "CLONBOYS" ENGLEFIELD GREEN SURREY FOR THE RIGHT HON. EVELYN VISCOUNTESS DE VESCI



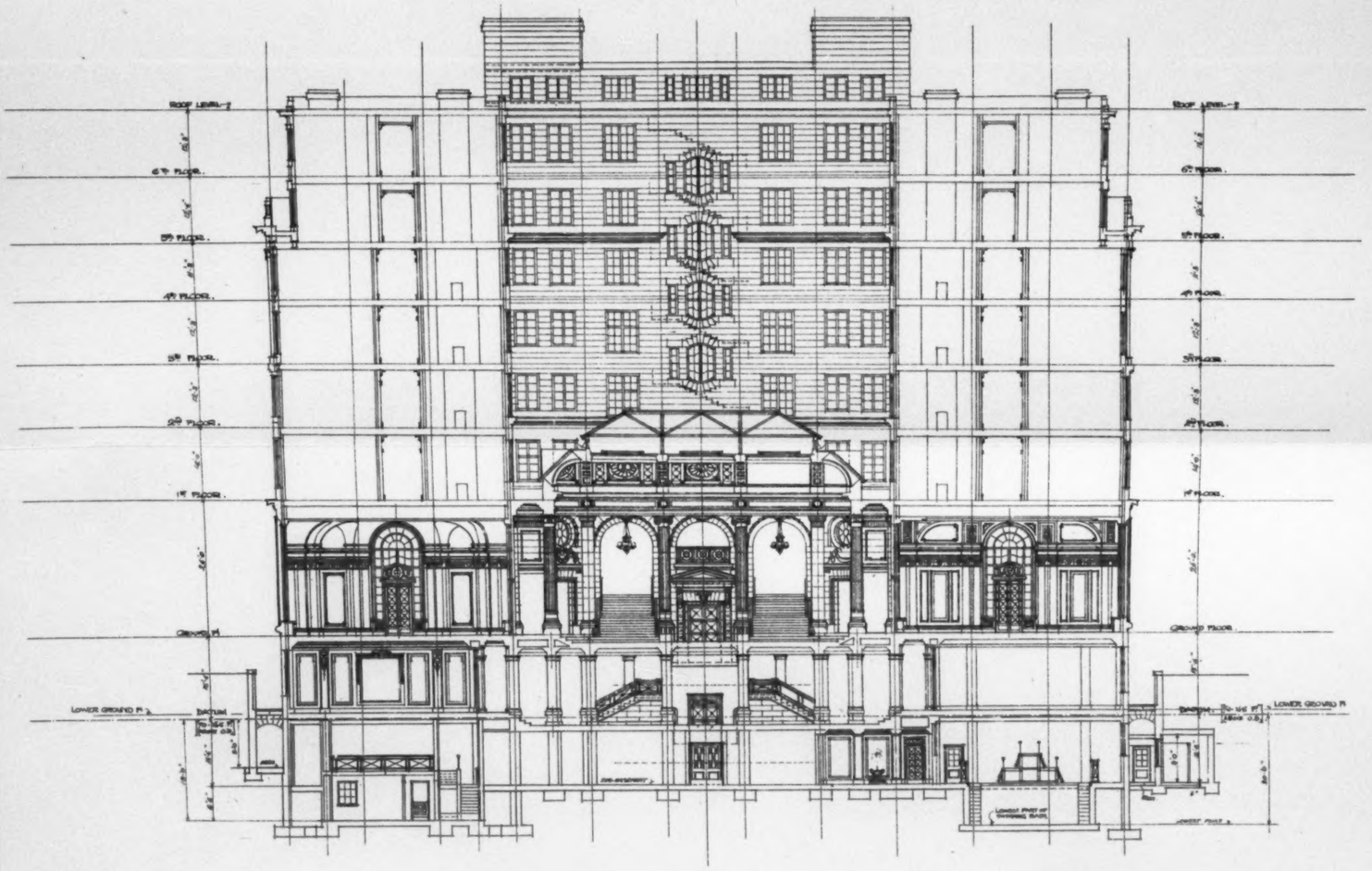
0 5 10 20 30 40 50 FEET

DRAWN BY H. STEVENS

MUSIC-ROOM AT "CLONBOYS," ENGLEFIELD GREEN, SURREY.—Mr. H. S. Goodhart-Rendel, Architect.



· LONGITUDINAL · SECTION · A A ·



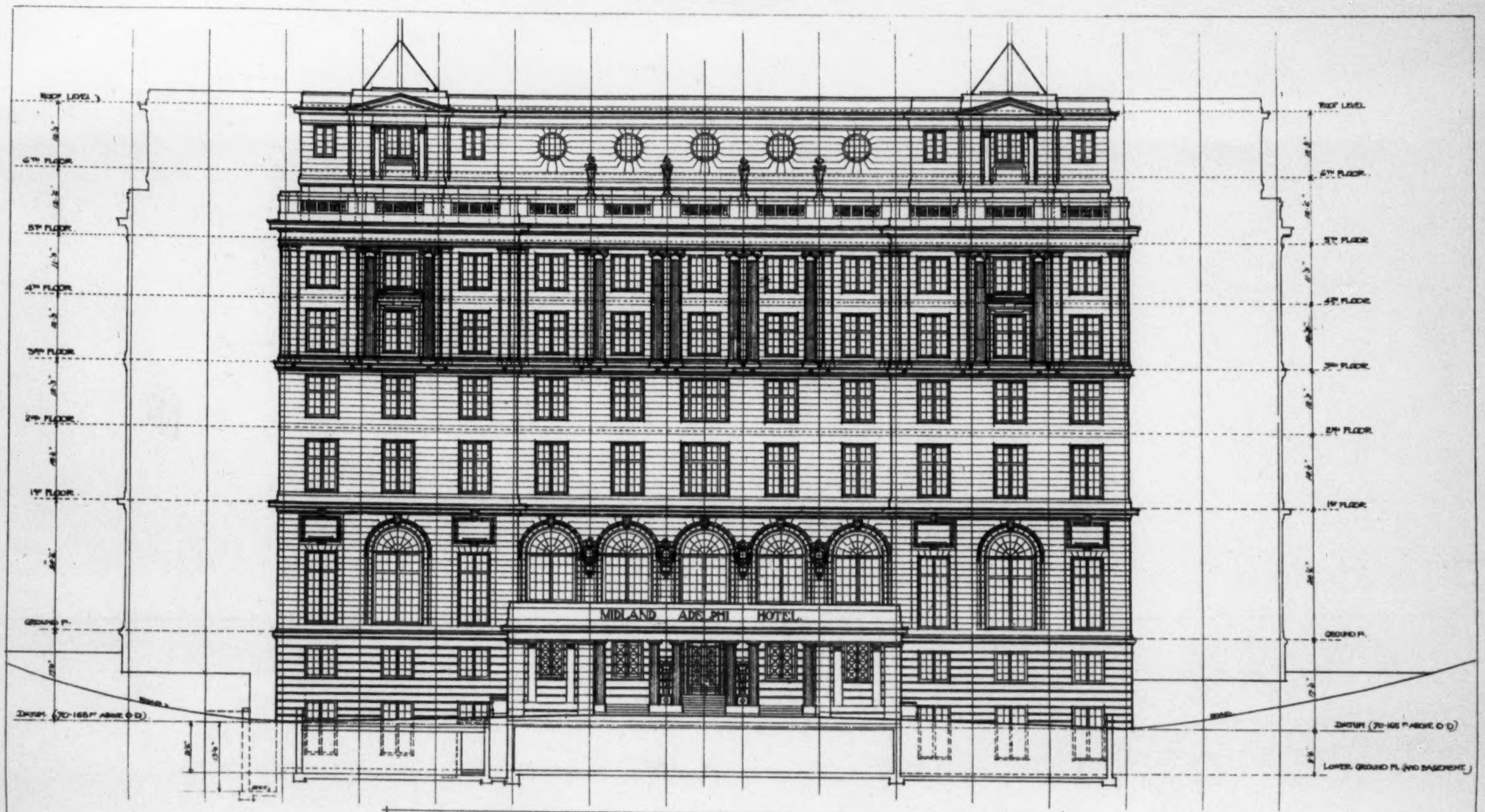
TRANSVERSE SECTION

R. FRANK ATKINSON F.R.I.B.A.
13 SACKVILLE STREET
LONDON W.

SCALE OF FEET

PHOTO-LITHO SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

MIDLAND ADELPHI HOTEL, LIVERPOOL.—Mr. R. Frank Atkinson, F.R.I.B.A., Architect.



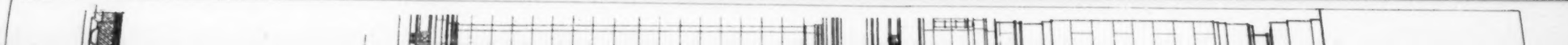
ELEVATION TO RANELAGH PLACE

SCALE OF FEET

R. FRANK ATKINSON F.R.I.B.A.
3 SACKVILLE STREET
LONDON W.

PHOTO-LITHO SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

MIDLAND ADELPHI HOTEL, LIVERPOOL.



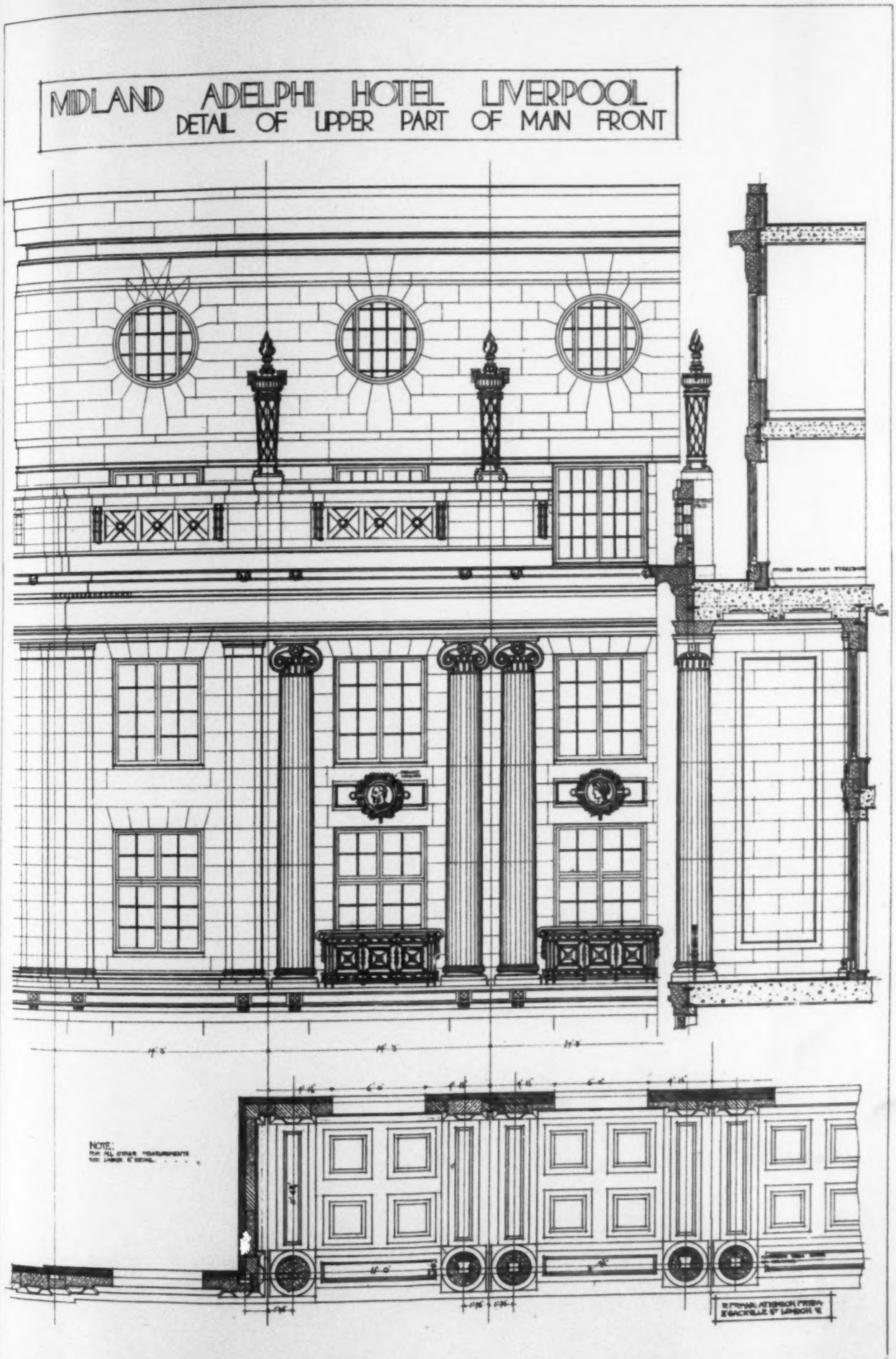


PHOTO-LITHO. SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

MIDLAND ADELPHI HOTEL, LIVERPOOL.—Mr. R. Frank Atkinson, F.R.I.B.A., Architect.

CONSTRUCTION SECTION.

"WESTMINSTER HOUSE," MILLBANK.

THE new premises which have been erected at Millbank, S.W., for the British-American Tobacco Company, Ltd., contain some interesting constructional features, and they are typical as representing the modern tendency for scientific design, combining efficiency with economy. The architects for the building are Messrs. Gordon & Gunton, and the principle of construction is that of a steel-framed building, with floor panels, retaining walls, foundations and strong-rooms of reinforced concrete, executed in accordance with the Considère patents from details prepared by the Considère Construction Company, of Victoria-street, Westminster.

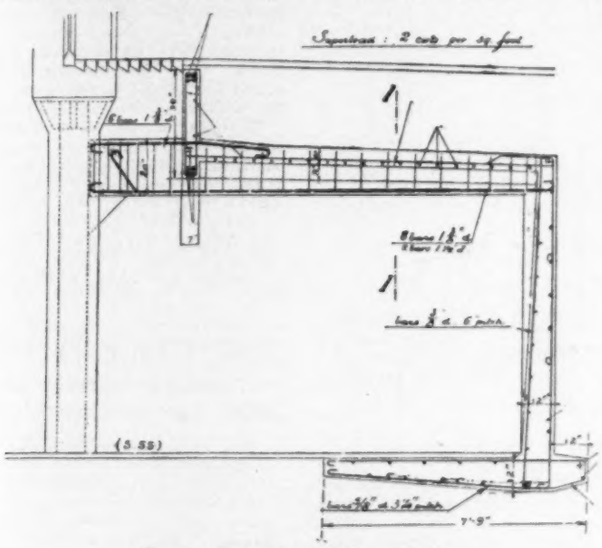


Fig. 1. Retaining Wall to Vaults.

The site, which is a corner one, has an area of nearly 14,000 sq. ft., with frontages of about 134 ft. to Dean Stanley-street, and 104 ft. to Millbank, and the building has been constructed with seven floors above the ground floor and one floor below the pavement, giving a total height of about 116 ft. from the basement floor to the roof. Large entrances leading to wide staircases serving the upper parts of the building are provided with each frontage, and there are four large passenger lifts in addition. Although a steel-frame construction was adopted with steel stanchions spaced at intervals of about 17 ft. 6 in. along the Dean Stanley front and six rows deep, the foundation slabs to these columns, with a few exceptions, were formed with reinforced concrete, and these are designed in a very scientific manner, and the reinforcement is treated in a somewhat different style as regards disposition to that usually employed. Three general sizes were employed according to the loads on the stanchion under which they occur, the largest being for a load up to 500 tons, the second for a load up to 360 tons, and the smallest in those cases where the load does not exceed 240 tons. All these slabs are 18 in. thick, while the largest is 6 ft. 6 in. square on plan, with reinforcement consisting of a double lattice of bars in the lower surface and a single lattice in the upper surface, the bars being, generally speaking, spaced at 6-in. centres in both directions, with stirrups connecting the two systems, and, in addition, several of the bars in the lower surface are cranked up at the ends and hooked round a 1-in. bar on the upper outer edge. The second size is 5 ft. 6 in. square and reinforced in a similar manner, but the bars are slightly smaller and spaced slightly farther apart. The smallest type is 4 ft. 6 in. on plan, and this is reinforced with a single lattice of bars only in the upper and lower surface. In cases where the loads are comparatively small or where it does not exceed 145 tons, the foundation slabs are 3 ft. 6 in. square and 18 in. thick, with reinforcement varying accordingly. Vaults are constructed under the pavements in Dean Stanley-street and Millbank, and the retaining walls on the roadside of these are constructed with reinforced concrete, as are also the beams under the pavement. A detail of this work is illustrated in Fig. 1, where it will be seen that the vertical portion under the outer edge of the pavement lights is designed as a beam, which takes its bearing on the main reinforced-concrete beams which run from the outer row of stanchions to the retaining wall, and these main beams, which are spaced at about 17-ft. centres, are formed with the retaining wall to give one homogeneous construction, the inner end of which merely rests on a bracket from the stanchion and does not exert any thrust on the latter, the wall being designed to avoid this, and a space being left at the end of the beam to avoid the possibility. The slabs under the footway are designed to carry a superload of 2 cwt. per square foot, and these have a thickness of 6 in. of concrete reinforced with ½-in. diameter bars, and continuity bars where passing over the main beams. The latter have a depth of 20 in. at the largest section, and they are 20 in. wide, with five bars on the lower surface and stirrups, as indicated on the detail illustrated. The retaining wall has a clear height of 8 ft. from the top of the base to the underside of the beams, and it is designed with a maximum thickness of 12 in. at the bottom, reducing to 7 in. at the top by battering the inside face. Counterforts are formed at the points under the main beams to give additional bearing to these, and they are 20 in. wide and flush with the wall at the bottom, and having a vertical inside face project 5 in. from the wall at the top. The vertical portion of the wall is reinforced with bars in both surfaces, these having diameters of ⅞ in. and ⅝ in.; and distribution bars are provided horizontally at 12-in. centres in both surfaces. The base of the wall has a projecting heel of 12 in. and a toe projecting 5 ft. 9 in., giving a total width of 7 ft. 9 in., and the maximum thickness is 12 in. This base is also reinforced by transverse and longitudinal bars in both surfaces, and, as before mentioned, is designed in such a manner that no thrust is exerted by the beams at the top on to the stanchions.

The accommodation provided in the basement includes a large space devoted to storage of valuable papers, which measures about 80 ft. by 23 ft., and this is enclosed by reinforced-concrete walls, which render it absolutely fire-resisting. Within the space the strong-rooms are formed, and these are so built that they are practically indestructible both from a burglary and fire point of view. The height of these rooms is 11 ft. 10 in. in the clear; and the walls and roof are constructed with reinforced concrete 15 in. thick, while the floor is 12 in. thick. The floor is reinforced with bars in the upper and lower surfaces, which are somewhat closely spaced; but obviously this did not require to be so heavily reinforced as the walls and roof, and the latter are constructed with a triple lattice of steel bars, one lattice being situated in each surface of the concrete, and one in the centre of the thickness. The bars composing the lattices are closely spaced and tied in with numerous stirrups, and the rods are cranked at the ends. The strength of these strong-rooms is so great that it would be sufficient to withstand the shock of the upper parts of the building falling upon them if such a collapse should take place during a fire, although such a possibility is rather remote when the fire-resisting character of the whole structure is considered. It is a unique example of strong-room construction, and is instructive for that reason, and it affords a good example of the applicability of reinforced concrete to all the requirements of a modern building.

The floors generally are constructed with main beams of steel, consisting of simple rolled-steel joists or compound-steel girders, and the panels are filled in with reinforced concrete and tiles, the average width of these panels being about 17 ft. 6 in. The total thickness of these floors is only 10¾ in., including the wood-block flooring, with its bedding and screeding and the plastered ceiling. The constructional part of the floor is only 8½ in., and this is composed of hollow bricks, having a depth of 6 in. and a covering of 2 in. of concrete. These hollow blocks are 12 in. square, and they are laid in rows with a clear space of about 2¾ in. between each row, and this space is filled in with concrete reinforced with two longitudinal bars with stirrups at 9-in. centres bent around same and carried well up into the concrete covering the tiles. Longitudinal bars are also provided in the upper surface spaced at about 12-in. centres; and continuity bars are provided where passing over the main steel beams, as illustrated in the detail in Fig. 2. The steel beams are also encased in concrete as a protection against fire, and to provide an efficient bearing for the ends of the panels. The roofs to the lantern lights are constructed in a similar manner; and this system provides a light floor, having sound and fire-resisting qualities, while it is capable of sustaining a heavy load, and only requires a minimum thickness. It will be readily understood that some of the steelwork required was of a heavy character owing to the large loads that had to be carried; and of this work possibly some of the most interesting is provided by the foundation girders that were employed next the party walls where reinforced concrete was not adopted. A typical example of this part of the construction is afforded by the case of a stanchion, which is a compound one 14 in. by 11 in., being built up with two rolled-steel H-sections and four plates, which is carried by a large compound foundation girder about 14 ft. 9 in. long. This girder is 2 ft. 5 in. deep and 18 in. wide, and it is built up with two web plates, 4 in. apart, four plates, 18 in. by ⅝ in., in each flange, and four 6-in. by 6-in. by ½-in.

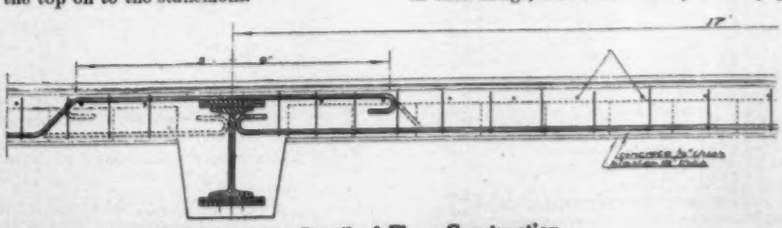


Fig. 2. Detail of Floor Construction.

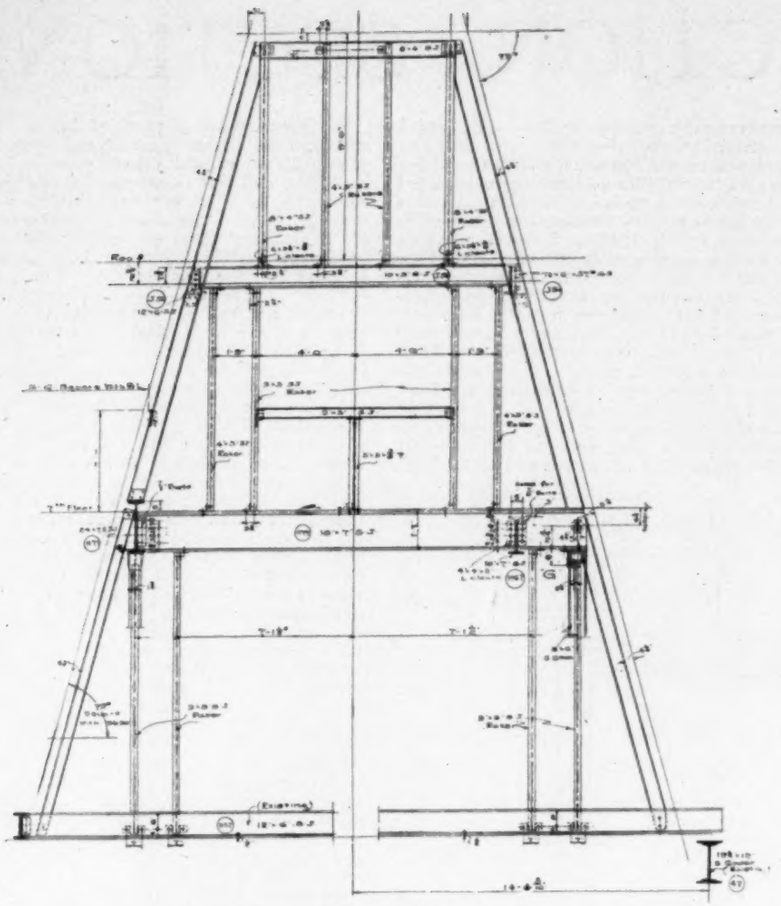


Fig. 3. Steel Framing to Tower.

angles, at the junction of web and flange plates. Tee and angle stiffeners are provided under the stanchion and over the bearing, and one intermediate one is introduced on either side between these two points. All the rivets are 1 in. diameter, and they are arranged with a pitch of 3 in. The bearing for this large plate-girder is provided by three 12-in. by 6-in. rolled-steel joists, each 6 ft. long at one end, these joists having web stiffeners and distance pieces and bolts. At the other end three 10-in. by 6-in. rolled-steel joists are provided. The base plate to the stanchion is 1 ft. 9 in. by 1 ft. 6 in., and this is riveted to the large girder at a point 6 ft. 8 in. from one end. Adjoining this particular stanchion is one of similar size, which is carried by a compound steel girder, composed of two 20-in. by 7½-in. rolled-steel joists, and one 18 in. by ⅝ in. plate at top and bottom, 11 ft. 3 in. long. The stanchion is not situated centrally on this girder, but at a point about 3 ft. from one end, and 10-in. by 4-in. channel steels are riveted to the girder to form stiffeners under the stanchion and over the nearest bearing. The bearing for the girder is provided by four 10-in. by 6-in. rolled-steel joist, with web stiffeners and distance pieces and bolts at the end, having the greater reaction; and at the other end one 10-in. by 6-in. rolled-steel joist is provided, the latter being bolted to the series of three 10-in. by 6-in. rolled-steel joists, forming one bearing for the large plate-girder previously mentioned. These foundation girders are interesting, as they are different to the general type of grillage foundation adopted for heavily-loaded stanchions. The stanchions in most cases are compound ones, built with two H-sections and four plates, and those to the frontages had special brackets below the pavement level in many instances. These brackets have a projection of about 2 ft. 2 in. and a similar depth, and they are built up with large plates riveted to the flanges of the stanchions, and stiffened by angles on all the edges. The greater number of the steel girders used for the framing are ordinary stock rolled-steel joists, but where carrying wall loads or concentrated weights compound sections of various sizes are employed. The framing to the tower at the corner of Dean Stanley-street and Millbank is illustrated in the detail shown in Fig. 3, this having a slope of 75 deg. with the horizontal, and being built up with raking joists and horizontal ties of various sizes, as indicated. The drawing is sufficiently explicit to need of no further explanation. The principal rooms on the basement and ground floors will be ventilated on the Plenum system with fresh air supplied by a fan in the basement, this air being filtered and warmed by a steam battery in winter to render it pure and of agreeable temperature. The vitiated air is extracted by exhaust fans at various points. The heating is effected by steam below atmospheric pressure, a pump being connected with the condense pipes, which withdraws the air and water of condensation, returning the latter to the boilers for reuse. The system is silent in action, and secures a low temperature of the heating surfaces very little in excess of that of hot water. The upper portion of the building, which will be utilised for offices, will be heated by radiators of the ventilating type.

The general contractors for the work are Messrs. Wm. Cubitt & Co., branch of Messrs. Holland & Hannen & Cubitts, Ltd., and the reinforced-concrete work was executed by the Cubitt Concrete Construction Company.

The structural steelwork was carried out by the Aston Construction Company, Ltd., and the heating and ventilation scheme by Messrs. J. Jeffreys & Co., Ltd., of 11, Old Queen-street, S.W.

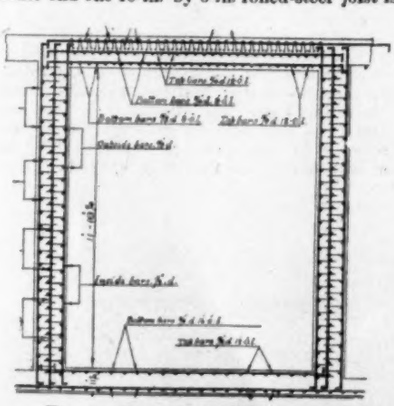


Fig. 4. Section of Strong-room.

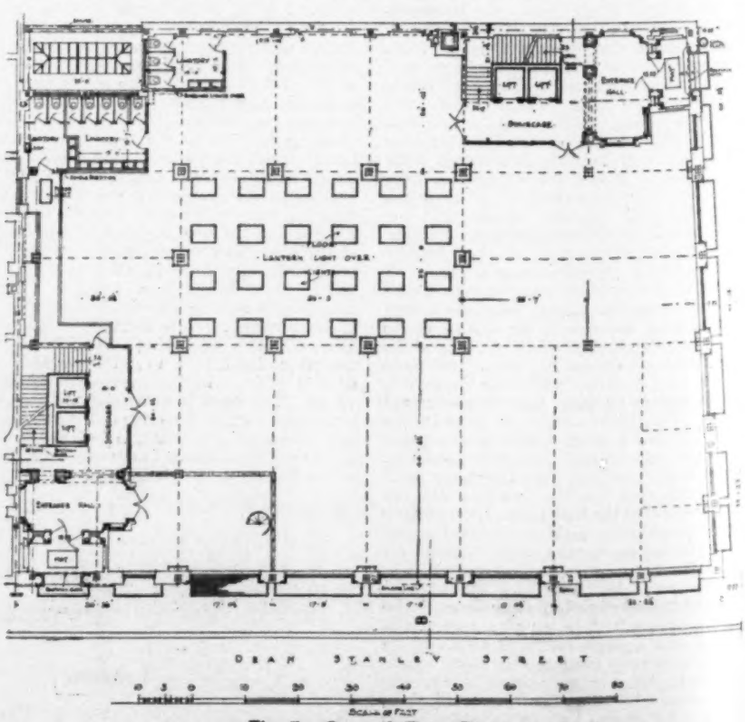


Fig. 5. Ground Floor Plan.

THE CONCRETE INSTITUTE:

"STANDARD METHOD OF MEASUREMENT FOR REINFORCED CONCRETE."

MR. E. P. WELLS (President) took the chair on January 29 at Denison House, S.W., at the forty-third ordinary general meeting of the Concrete Institute, when a discussion took place on the following matters:—(1) Draft Report of the Joint Committee of Representatives from the Quantity Surveyors' Association, the Quantity Surveyor Members of the Concrete Institute, and the Reinforced Concrete Practice Standing Committee of the Concrete Institute on a "Standard Method of Measurement for Reinforced Concrete." (2) Draft Report of the Reinforced Concrete Practice Standing Committee of the Concrete Institute on a suggested

"Tabulated Form for Preparing Quantities for Reinforced Concrete."

The Report of the Joint Committee was read by Mr. Bylander, and it was recommended that the method of measurement compiled should be registered and circulated amongst the members of the Concrete Institute and of the Quantity Surveyors' Association. The suggested measurements were as follows:—

Suggested Method of Measurement.

The work on each floor to be kept separate, stating the height from the ground to the several floors. Keep concrete, centering, and reinforcement for each floor together. No reinforcement to be deducted from the concrete; otherwise all measurements to be net unless stated, and notwithstanding any trade custom, to the contrary.

Concrete.

Foundations, Bases to pillars, Walls (state each thickness separately), Pillars (state "averaging " or "ranging from to "), Floor Slabs (measure across beams. State each thickness separately), Beams (measure below soffit of floor slab. State "averaging " or "ranging from to "), Roofs (state slopes over 30 deg. separately to allow for filling between double centering).—Per foot cube.

Chases and Grooves, etc. (Whether cut or formed to be described).—Per foot run.

Holes, Mortises, etc. (To be described as either cut or formed, and size, depth or thickness of concrete given).—Each.

Centering, Shuttering, etc.

Each variety of centering, shuttering, etc., to be measured separately. Both sides of concrete requiring double centering to be measured.

Foundations—Vertical, splayed, or circular.—Per square.

Walls—Vertical, battering, or circular on plan.—Per square.

Floor Slabs—Raking, circular on plan, or radiating. (Measure net between beams. The radiating centering to be described as including all cutting to radiations).—Per square.

Fig. 7. Elevation to Dean Stanley-street, "Westminster House," Millbank.

Floor Slabs—In small pieces, landings, etc.—Per foot super.

Pillars—All centering, etc., to include for strutting, timbering, wedges, etc. Square, circular, octagonal, or other shape, to include all cutting and waste. Bases and caps for pillars, giving size, to be kept separate.—Per foot super.

Beams—(To be measured as girth of beam from underside of floor slab only "including all labours." State if radiating or circular on plan or elevation, including mitres).—Per foot super.

Roofs—Flat, raking, segmental, semicircular, or elliptical. (Measure both sides if over 30 deg. slope).—Per square.

Return Edges of Openings in walls, floors, or roofs.—Per foot run.

Soffits of Stairs—Raking, flewing or circular on plan. (To be described as including cutting and waste).—Per square.

Mouldings—Over 12 in. girth.—Per foot super.

Mouldings—12 in. girth and under.—Per foot run.

Mitres, Stopped Ends, etc.—Each.

Return Edges of Concrete Floors, Strings, and Risers of Stairs.—Per foot run.

Circular or Raking Cutting and Waste to be measured to all irregular surfaces of walls, floors, and roofs. Per foot run.

Key Blocks, Consoles, etc., giving full size and description.—Each.

Splays, Chamfers, Rebates, Rounded Angles, etc., to be described as including fillets and moulds.—Per foot run.

Reinforcement.

Ordinary steel bars from ¼ in. to 2 in. diameter may be included under one heading (stating the diameters). Bars under ¼ in. and over 2 in. in diameter to be kept separate. Bars over 30 ft. long to be kept separate.

All wire ties (exclusive of helical or horizontal binding or stirrups) to be included in the description of the reinforcement.

The different items of reinforcement to be kept separate as described for "Concrete" and "Centering, Shuttering, etc."

Steel Bars—State "including all bends, hooked ends, etc., and fixing at any level, in any position."—Per hundredweight.

Stirrups and Binding—Horizontal or helical.—Per hundredweight.

Meshwork Reinforcement supplied in sheets or rolls—to be measured "net" (*i.e.*, no allowance made in the measurement for laps or for straight cutting and waste), including all labours for bending, etc.—Per yard super.

Raking and circular cutting and waste to ditto.—Per foot run.

The Reinforced Concrete Practice Standing Committee of the Concrete Institute suggested that a standard tabulated form for preparing quantities for reinforced-concrete work be

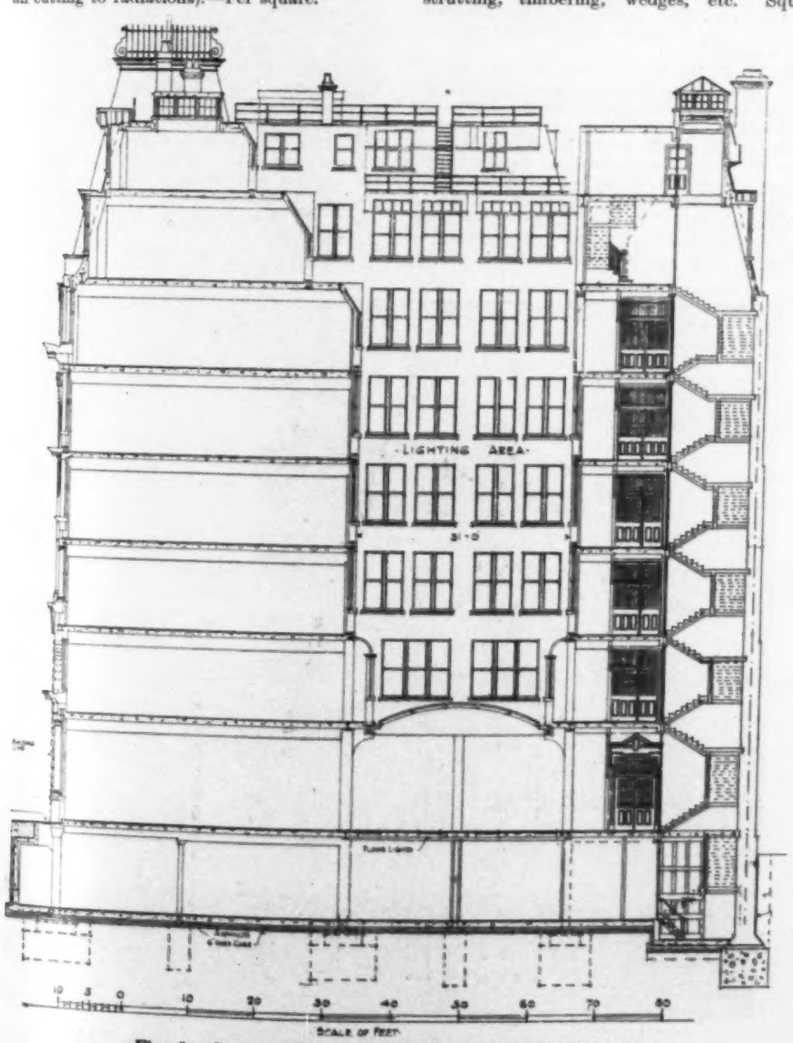


Fig. 6. Cross-section, "Westminster House," Millbank.

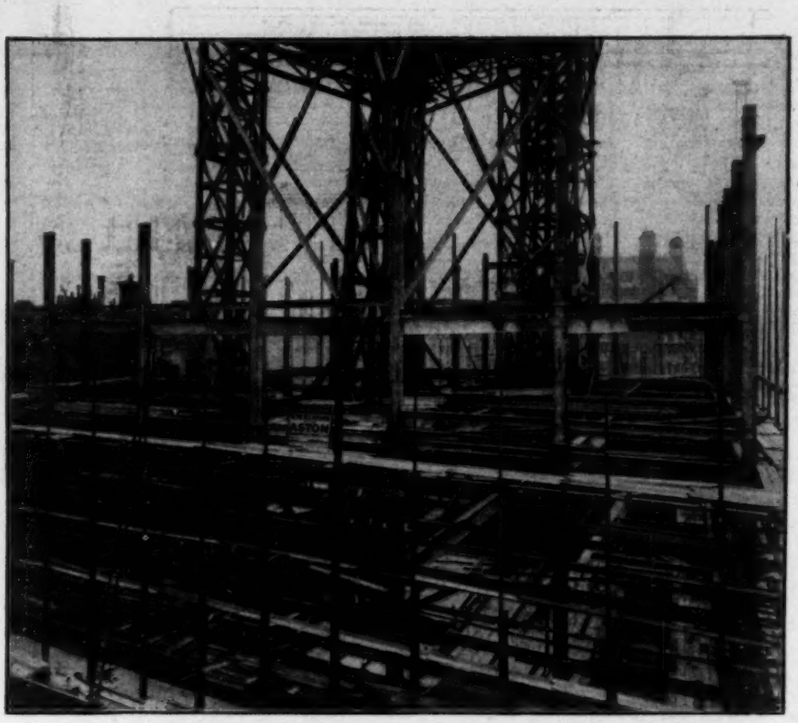


Fig. 8. General View of Steel Framing, "Westminster House," Millbank.

issued under the authority of the Concrete Institute.

In introducing the Report Mr. Bylander said the Concrete Institute had done a great deal in the way of simplifying the work of reinforced concrete. The chief aim was to get a result, and the means should be as simple as possible. If any part of the work entailed too much expense, it was their duty to reduce that expense if possible, so that only useful work should be called for. In dealing with reinforced concrete quantity surveyors had found difficulties, and hence they had asked the Quantity Surveyors' Association to join them in getting a standard method of measurement. With regard to the standard tabulated form for preparing quantities for reinforced concrete work, which it was suggested should be issued, it was not intended to be a bill of quantities to be presented to the builder, but was only intended as a sheet in which the details of the quantities were given from the drawings. The views which might be expressed that night would guide the Committee in drawing up the final Report.

Mr. G. Corderoy said that happily in reinforced concrete they were not hampered with any ancient customs of measurements. He regretted the Committee did not have the courage of their convictions and stick to the unit of foot for centering and shuttering foundations and walls, for there was certainly no merit in the term "square," at all events as applied to a great many items of foundation work. He suggested that the formed mortices were not worth dealing with, and that what really mattered was the cut mortices; and, further, they might reconsider their recommendation as to stirrups and treat them in much the same way as rivets were treated with regard to riveted joists. He commended the Committee on their recommendation with regard to slopes.

Mr. F. W. Harrison thought the recommendations would simplify matters and bring things better before the builder in the future.

Mr. G. C. Workman suggested a square yard or a square foot for shuttering and centering of foundations and walls, although he understood that the square was introduced because the contractors bought their timber by the square. With regard to stirrups and binding, it would be a gross mistake unless they also included the labour per hundredweight.

The Chairman remarked that, although the words had not been put in, it would include the labour.

Mr. Alan Paull opposed the suggestion of Mr. Corderoy that the unit of foot should be used in regard to shuttering and centering. He preferred the square.

Mr. Wentworth Shields noticed that the Committee had got over the difficulty of six different names for shuttering by inventing a new name, but he suggested that instead of coining a new word, which was always difficult to popularise, they should adopt the American term of "forcework," which covered all that was wanted.

Mr. P. F. Glebe questioned whether several of the proposed measurements would give the contractor sufficient information to enable him accurately to price the item.

Mr. W. E. Davis would have liked to have seen the question of pile-driving dealt with, for it was a very difficult matter for surveyors.

Mr. G. M. Nicholas also thought it would be an improvement if they could have some system laid down as to the measurement of concrete piles and also as to the driving of them, for concrete piles could hardly be considered the same thing as pillars.

Mr. A. Alban Scott thought they should have asked representatives from the Builders' Associations to join with them, and also have got the opinion of the Royal Institute of British Architects, because with their support the document would carry much greater weight.

MIDLAND ADELPHI HOTEL EXTENSION, LIVERPOOL.—II.

Our first article on the extension, or it might be more appropriately said the rebuilding, of the Midland Adelphi Hotel, Liverpool, was published in the *Builder* of May 10, 1912. At that time the new building officially known as Extension No. 1 had been completed and was fully occupied by visitors, and the demolition of the old hotel (rebuilt in 1876) was in active progress.

The area cleared by the removal of the old building furnished the site now occupied by the new block known as Extension No. 2.

In order that our readers may obtain a perfectly clear idea at the outset as to the geographical positions of the two new structures, we suggest that they should refer to Figs. 1 and 3 illustrating our previous article.

Fig. 3 is a plan of Extension No. 1, the position of this being readily identified on Fig. 1, at the bottom of which is Extension No. 2, facing Ranelagh-place, and bounded at the right and left by Brownlow-hill and Copperas-hill respectively.

It should be mentioned at this stage that the design and arrangement of the ground floor have been somewhat altered since the publication of the original plan reproduced as Fig. 1 in our former article.

As may be seen on examination of Fig. 1 here given, the main hall, now termed the Court, remains unaltered and occupies a position between the broad flights of stairs leading up from the new entrance hall and the Hypostyle Hall in the first extension. The Restaurant (now designated the French Restaurant) and the smoking-room at the right hand have been altered in shape with most happy results, the former now having elliptical-shaped ends in plan, while to the latter a square form has been given. The consequent abolition of straight lines is refreshing to the eye, while the corner spaces have been utilised in the formation of alcoves, breaking up and imparting variety to the wall surfaces, and also used for service and store rooms. Between the French Restaurant and the smoking-room there are now a spacious ante-room and an American bar.

Turning now to the left hand of the Court,

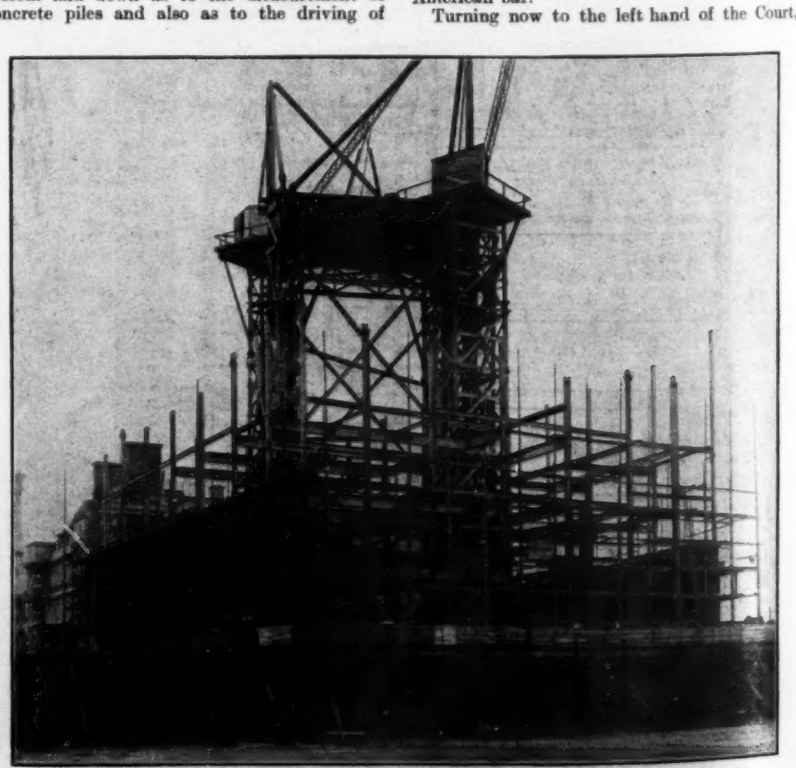


Fig. 9. General View of Work in Progress, "Westminster House," Millbank.

we have a dining-room, substantially, as before, planned, and an ante-room opening upon an octagon drawing-room, with four alcoves, and taking the place of the square writing and reading room originally designed.

Between the Court and Ranelagh-place the ground floor is occupied by a suite of spacious reception-rooms, worthily displacing the small apartments at first intended for this important position.

In order to clear up, at this stage, the apparent enigma suggested by the absence of a main entrance in Fig. 1, we may conveniently explain that, owing to the slope of the site, the main entrance is situated beneath the reception-rooms on what is termed the lower ground floor, although this floor is actually some feet above street level, as shown by the elevation and sections given in two of our plates. At the back of the hotel the ground floor is at street level, while in the front it is so far above that level as to make it virtually a first floor.

Commenced a few months after the opening of Extension No. 1, the present building is now so far completed that it will probably be ready for occupation by the end of this month. It has a frontage of 160 ft. on Ranelagh-place and a depth of 140 ft. from front to back.

As now completed, the Midland Adelphi Hotel embodies all the features characterising the latest practice in modern hotel construction and equipment, and those who have visited the establishment will be quite prepared to admit that it may justly claim to constitute the last word in British hotel design.

At the time of its erection the Midland Hotel, Manchester, was not unreasonably regarded as the premier building of its class in Great Britain, and, although it may have suffered somewhat in comparison owing to the admirable architectural and artistic features of some hotels built in London during the last few years, it still occupies a high place.

It is clearly surpassed by the new Adelphi Hotel, which is of practically equal dimensions, and embodies a finer architectural scheme and more modern equipment.

The main features of the entire project were outlined in the first instance by Messrs. Towle, the managers of the Midland Railway Hotels Department, the buildings and decorative treatment having been designed by Mr. R. Frank Atkinson, F.R.I.B.A., to whom we are indebted for the architectural drawings reproduced in this issue.

A point of interest connected with the arrangement of the principal apartments is that, so far as the two lower floors are concerned, the hotel is planned on what may be termed a "two-deck" system, wherein the public rooms intended for occupants of the more expensive suites, and visitors to whom money is a small consideration, are on a different floor from those provided for other guests. Thus the ground floor is devoted to dining, refreshment, and other rooms of exceptionally luxurious character for guests and visitors who do not mind paying for accommodation and catering of the highest class, and the lower ground floor is occupied by similar apartments, which, although handsomely furnished and well appointed in every respect, appeal to those who are satisfied with expenditure on a comparatively modest scale. This plan has been adopted with the object of meeting the requirements of the different classes of visitors frequenting the hotel.

The general arrangement of Extension No. 2 is illustrated by the elevation to Ranelagh-place, and the two sections, longitudinal and transverse, given in two of our plates. From these it will be seen that the building comprises nine floors in all from basement to sixth floor, and that the design follows the lines of the complete scheme outlined in our first article.

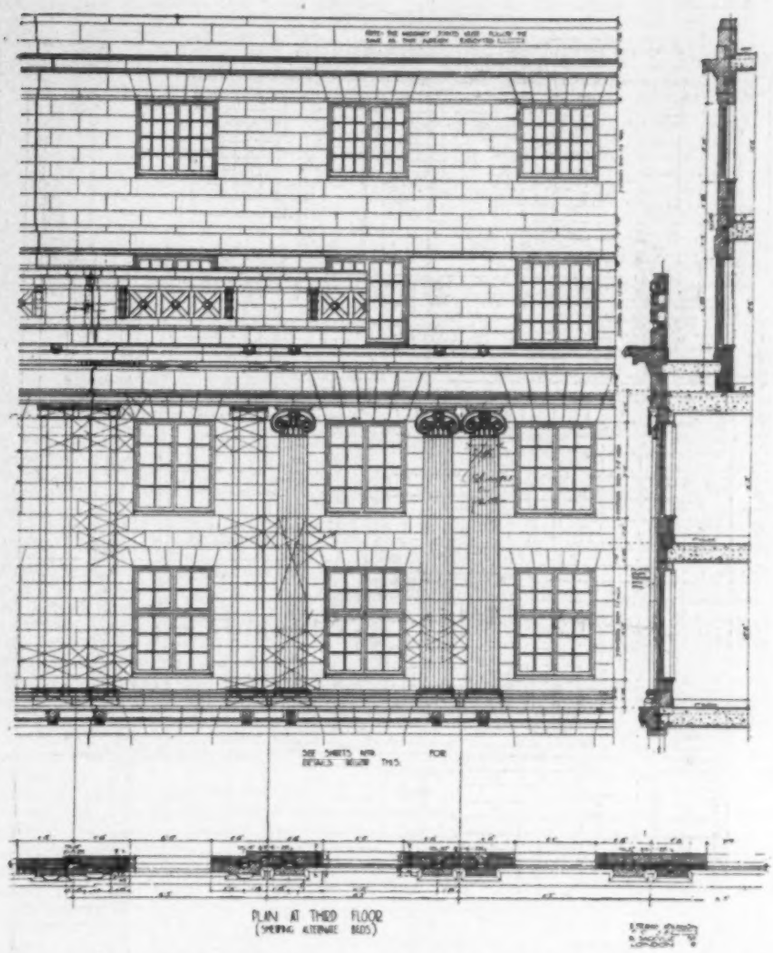


Fig. 2. Midland Adelphi Hotel, Liverpool: Detail of Upper Part of Front on Brownlow-hill.

Mr. R. Frank Atkinson, F.R.I.B.A., Architect.

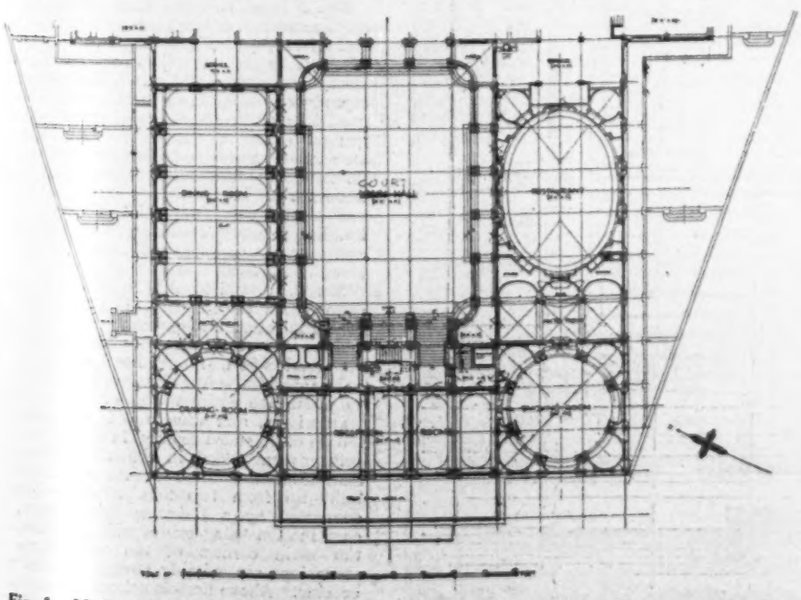


Fig. 1. Midland Adelphi Hotel, Liverpool: Ground Floor Plan of Extension (No. 2).

Mr. R. Frank Atkinson, F.R.I.B.A., Architect.

The main entrance in Ranelagh-place is in the form of a loggia, 76 ft. long by 15 ft. deep, supported by a row of six monolith fluted granite columns. The roof of the loggia is provided with glazed lights of ample size, giving a pleasing aspect to the entrance. Next comes the entrance hall, 70 ft. by 28 ft., at the back of which are two flights of stairs leading up to the Court, at the foot of these stairs being three lifts, two for passengers and the third for luggage.

The central Court is a magnificent hall, 85 ft. long by 65 ft. wide, covered by a glazed roof, and at once impresses the visitor by its fine proportions. The decorations of this room were not designed by the architect.

As a matter of fact the hall is really the lower part of a large interior court, around which all the upper stories of the hotel are built, with the object of providing ample means for the admission of light and air to the inner suites of rooms.

It should here be pointed out that the roofing over the court has not been constructed according to the design shown in the longitudinal and transverse sections, having been made quite flat and slightly lower than was at first intended, the chief reason for this alteration having been the desire to afford more light to the rooms on the first floor. Certain minor alterations have also been made in the interior decorative scheme of the Court.

The dining-room, providing accommodation for 200 diners, is panelled with gilded oak, the hangings and carpet being in gold and royal blue.

The French Restaurant, on the other side of the Court, seats 120 persons, and is panelled

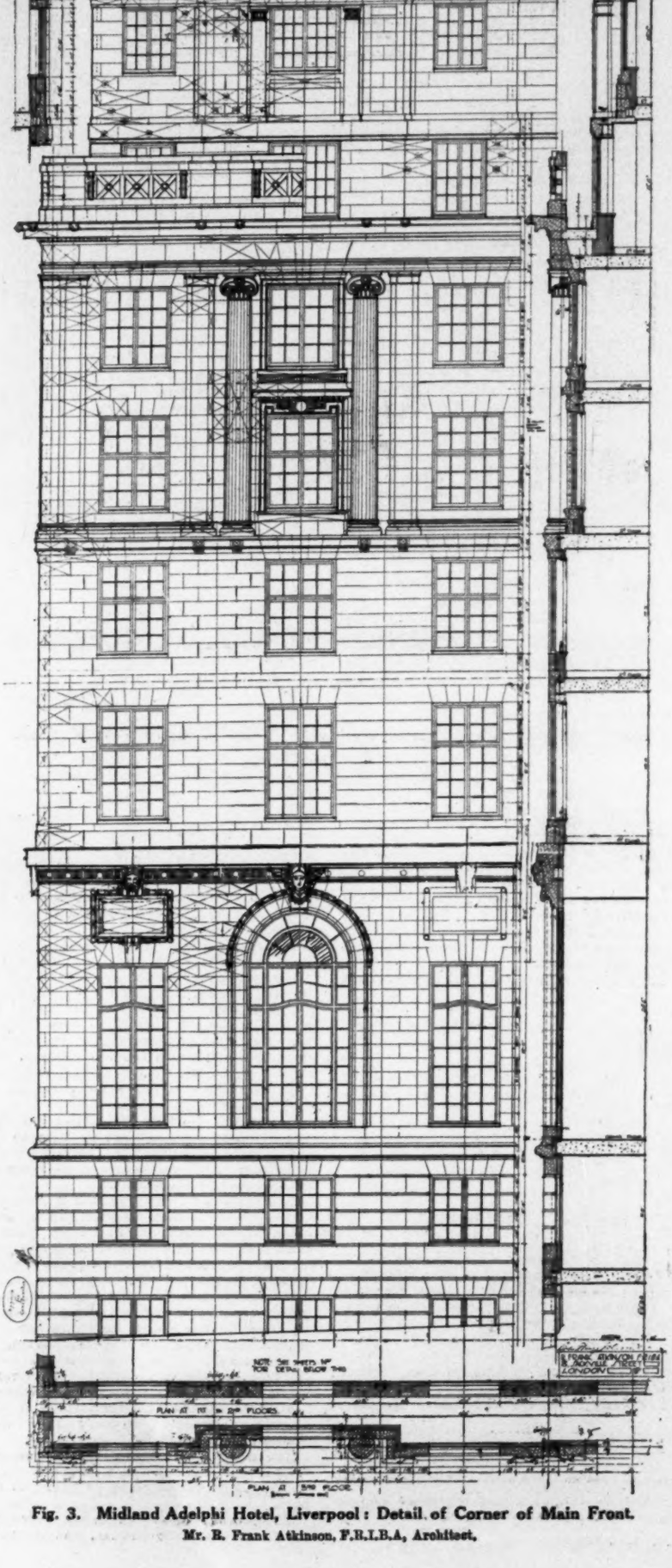


Fig. 3. Midland Adelphi Hotel, Liverpool: Detail of Corner of Main Front.
Mr. R. Frank Atkinson, F.R.I.B.A, Architect.

in inlaid grey hardwood, with furniture to match and designed in the French style.

Now that the Hypostyle Hall of Extension No. 1 has been placed in communication with the Court of the second extension, a truly remarkable series of vistas has been created by the long succession of halls, courts, and stairways from front to back of the building.

Entering the roof-lighted loggia and passing into the subdued light of the entrance hall, the visitor sees before him the broad stairs beyond which is the brilliantly-lighted central Court, and beyond that again the mysterious shade of the pillared Hypostyle Hall. Proceeding further, a distant glimpse is obtained of the Fountain Court, open to the sky and surrounded by colonnaded terraces.

Mr. Atkinson is certainly to be congratulated on the manner in which he has planned and worked out the architectural features of the several halls and spaces, as also on the pleasingly varied yet harmonious nature of the treatment throughout.

On the lower ground floor there are a spacious lounge—the decorations of this room not designed by the architect—and grill-room, smoking-room, billiard-room, a suite of entertainment-rooms, part of the new kitchen department, etc., and other rooms for visitors and guests.

The basement story contains squash racquet courts and a large swimming-bath. There are two racquet courts, measuring 33 ft. long by 20 ft. wide, situated at the left hand of the basement. The swimming-bath, 75 ft. long by 35 ft. wide, is at the right-hand side, and is provided with a range of private dressing-rooms and the usual accessories. The remainder of the basement is occupied by Turkish baths, storerooms, cellarage, and accommodation for heating apparatus.

The upper stories, being devoted chiefly to bedroom suites, do not call for detailed description, as each story is arranged on practically the same plan as that reproduced as Fig. 2 in our article of May, 1912. The rooms are disposed on each side of main corridors running through three sides of the new building and communicating with the corridors of Extension No. 1.

For particulars as to the arrangement, decoration, and equipment of the bedrooms reference should be made to our previous article.

At fifth-floor level a balcony extends along the three outer walls of the building, as shown by the drawings. Being supported by columns and pilasters rising from third-floor level and finished by an appropriate parapet, the balcony is a distinctly pleasing feature, the effect of which is materially increased by the recesses between the groups of columns, and by the setting back of the two upper stories to a distance of 4 ft. 9 in. from the main walls of the building. Details of the upper part of the main front on Ranelagh-place are given in one of our plates, and similar details relative to the Brownlow-hill front will be found in Fig. 2.

Fig. 3 is an enlarged detail illustrating the architectural treatment at each side of the main front, and Fig. 4 shows details of the windows to the reception-rooms immediately above the entrance loggia. The perspective reproduced at the head of this article gives a good idea of the monumental proportions and general effect of the design. It should be mentioned, however, that the two circular pavilions on either side of Extension No. 1 have not yet been built.

From the structural point of view the new building is a steel-frame structure, with brick and masonry enclosing walls, the exterior being faced in Portland stone.

Mr. C. V. Childs, A.M.Inst.C.E., was associated with the architect in the capacity of consulting structural engineer for the steelwork, which was executed by Messrs. Richard Moreland & Son, Ltd., of London.

The steel frame includes sixty main stanchions to which the entire weight of the building is transmitted, and whence it is distributed by means of extended footings in the form of steel grillages embedded in concrete. The largest stanchions are those in the exterior walls, built up from two 9-in. by 7-in. I-beams, connected by a 12-in. by 6-in. I-beam, the combination being one of wide H-section. At the main corners of the steel frame the stanchions are suitably strengthened by wind bracing. Above first-floor level the stanchions are reduced in cross-section proportionately to the smaller loads to be carried. Care has been

taken throughout the work to provide for the attachment of girders and beams in such manner as to obviate strains due to eccentric loading.

The steelwork of the floors has been designed in rectangular bays and panels, the dimensions of which were standardised as far as practicable in order to conduce to simplicity and economy of construction. Thanks to this method of planning, the need for large and unnecessarily costly members has been obviated except in places where intermediate supports could not be applied. For instance, the floor of the main court is carried over the lounge and other rooms on the lower ground floor by a series of heavy plate girders 3 ft. 4 in. deep, and there are some large girders at fifth-floor level for supporting the stanchions in the walls of the two upper stories, these walls being set back nearly 5 ft., as previously mentioned.

As in the case of Extension No. 1, every possible precaution has been taken against fire by the adoption of fire-resisting floors, stairs, partitions, and other structural details.

An interesting and ingenious structural feature is provided for by the spring floors installed in the dining-room, on the ground floor, and in room No. 3 of the entertainment suite in the basement.

The object of the arrangement is to provide for the resiliency that is so desirable when a floor is used for dancing, locking apparatus being fitted by means of which the floor can be made rigid for ordinary use.

The resilient or spring area of the floor in the Sefton Room measures 55 ft. 4½ in. by 28 ft. 6 in., and is surrounded by a fixed area, or border, along the four walls. The flooring is of oak, 1 in. thick, tongued, grooved, and secretly nailed to a layer of 4-in. by 1-in. deal battens, spaced 12 in. apart centre to centre, these being nailed down in turn to timber floor joists. The latter are in 5-ft. lengths, and rest upon a spring installation, consisting of light steel joists, in short lengths, connected with a series of fifty-six "Valtor" spring fittings. Each spring fitting comprises two cast-iron top casings, under which are steel spiral springs, and each fitting rests upon a cast-iron base bolted to the supporting steelwork below.

Along the boundary line between the resilient area and the fixed border around it, the outer end of the lengths of spring girders are carried by cast-iron rockers, thereby forming a kind of hinge along the line of demarcation, and thus causing the resilient area to merge imperceptibly into the fixed border.

The locking gear is divided into four sets, each operated by a movable key. When this is turned in one direction iron wedges are drawn beneath the spring girders and hold the floor rigidly. By turning the key in the opposite direction the wedges are withdrawn and the resilient floor area is supported by the springs.

In the entertainment-room in the basement the resilient area measures 40 ft. 6 in. by 32 ft. 7½ in. The installation is generally similar to that already described, and includes forty-two "Valtor" spring fittings. Owing to the small depth available, it was necessary to divide the locking gear into seven sets, each controlling six of the spring fittings.

Both of these spring-floor installations were executed by Messrs. Francis Morton, jun., & Co., of London, the patentees of the "Valtor" system.

The heating and ventilation apparatus and the hot and cold water services were installed by Messrs. Richard Crittall & Co., of London, the firm to whom was entrusted the general engineering equipment of Extension No. 1. When that extension was made space was left in the new boiler-house and engineering department for such additional steam generating plant and auxiliary appliances as would be required to comply with demands after construction of Extension No. 2.

Having dealt with details of the engineering equipment in our first article, it is only necessary to mention the additions that have been made. Soon after the reconstruction of the front portion of the hotel had been decided upon preparation was made for future increased demands by installing a third Stirling water-tube steam boiler. Extensions were also made to the steam mains, pumps, and other auxiliaries; and the calorifiers and other apparatus, for the heating and hot-water installations, were duplicated.

In consequence of the relatively short time allowed by the railway company for the completion of the new building, it was decided that all extensions of the engineering plant, necessarily fixed in Extension No. 1, should be completed while the foundations for the second extension were being prepared, so that the engineering contractors might be free to concentrate their energies upon the installation of the various services as soon as the building had advanced sufficiently to permit such work to be undertaken.

The heating and ventilating arrangements adopted for Extension No. 1, and fully described in our previous article, have been reproduced in principle in the new building. It should be noted, however, that, owing to the large number of public rooms in the lower ground floor and basement stories, arrangements for ventilation had to be made on a very comprehensive scale.

All the public rooms are furnished with fresh air on the Crittall balanced system of mechanical inlet and extraction, all fresh air being washed and filtered and either warmed or cooled according to the state of the weather, and all vitiated air conveyed by ducts to above roof level and there discharged.

The apparatus is arranged so that air at different temperatures can be supplied to various parts of the building according to requirements. The kitchens and service-rooms are provided with a separate installation supplying cold air in order to prevent these departments from becoming overheated, and powerful extraction apparatus has been provided to preclude the possibility that any objectionable smell of cooking may penetrate to the rooms occupied by visitors. The ventilation plant, as now completed, is capable of dealing with a total volume of 11,000,000 cubic ft. of air per hour.

As in Extension No. 1, the bedrooms and private sitting-rooms in the new building are warmed on the Crittall system of invisible panel heating.

Owing to the considerable distances to be traversed, the hot-water services to baths and lavatories are pumped round the building. Practically every bedroom is provided with a separate bathroom, with warmed towel-rail and lavatory with hot water. Consequently the consumption of hot water is very large, and the complete apparatus is capable of supplying continuously 10,000 gallons of water per hour at a temperature of 170 deg. Fahr.

Additional cold-water tanks have been fixed at each corner of the new building, and connected up with the previously installed tanks, the aggregate storage capacity of 50,000 gallons being available in the event of a temporary stoppage of public supplies.

The fire hydrant system has been extended from the portion first erected, and automatic sprinklers have been fitted over the service lifts, in all baggage-rooms, and in any other rooms where inflammable materials or goods may be stored.

To enable work in the first extension to be conducted without hindrance during the erection of the new building a temporary kitchen was installed, and has since been replaced by the new kitchen department extending into both portions of the hotel. All the cooking apparatus was provided and fitted by Messrs. Richard Crittall & Co.

The Turkish baths in the basement are warmed and ventilated by the Crittall system of air heaters and circulating fans; and the swimming-bath on the same floor, containing about 40,000 gallons of water, is provided with apparatus for the continuous purification and aeration of the water. Thus, by means of an electrically-operated pump, the water is constantly being drawn from the lowest part of the bath, distributed over an aerator fitted outside the building, passed through a filter, and finally returned to the bath after having been reheated by steam-pipes.

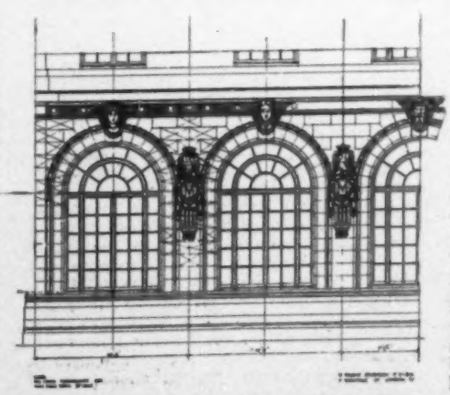


Fig. 4. Midland Adelphi Hotel, Liverpool: Detail of Windows over Entrance Loggia.

Mr. R. Frank Atkinson, F.R.I.B.A., Architect.

Messrs. B. H. Johnson & Co., of Westminster, were responsible for the construction of the floors, stairs, partitions, and plastering. The bronze and iron doors and balustrades were made and fitted by Messrs. J. W. Singer & Sons, Ltd., of Frome, and the door furniture was supplied by Bricard, of Paris. The external bronze balconies, lamps, etc., were executed by the Bromsgrove Guild.

All the decorative marble work was done by Messrs. H. T. Jenkins & Son, of Torquay; the dining-room decorative modelling by Messrs. H. H. Martyn & Co., Ltd., of Cheltenham; and the hardwood chimney-pieces were executed by Messrs. Peace & Norquoy, of Manchester.

The following firms were engaged upon the interior decorations and in the supply of fittings and furniture:—Messrs. Diespeker & Co., Ltd.; Messrs. Fryers, Ltd.; Messrs. Hampton & Sons, Ltd.; Messrs. Liberty & Co., Ltd.; Mr. Ropley; the Rust Vitreous Mosaic Company; Messrs. W. B. Simpson & Sons; and Messrs. Waring & Gillow, Ltd.

The passenger, goods, and other lifts were supplied and fitted by the Otis Elevator Company, Ltd., of Westminster, and the Hydraulic Engineering Company, Ltd., of Chester.

All sanitary work was carried out by Messrs. Davis & Bennett, Ltd., of Westminster, who were responsible for the corresponding installation in the first extension.

Messrs. Higgins & Griffiths were the contractors for the electric-light and power installations, most of the fittings having been supplied by the General Electric Company, Ltd. A further installation of electric clocks was made by the Synchronome Company, Ltd., of London.

Asphalt for the damp-courses, for covering the roof flats and for other purposes, was supplied by Messrs. Thomas Faldo & Co., Ltd., and granite for the basement by Messrs. Cooper, Wetern, & Co., Ltd. The racquet courts were fitted by Mr. H. M. Rootham, of Kingsway, and glass used in various parts of the building was provided by Messrs. Wotton & Son, of Croydon.

The general building contractors were Messrs. W. Thornton & Sons, of Liverpool, who were also contractors for the first portion of the hotel.

THE CONSTRUCTION OF LARGE BUILDINGS.

Mr. Francis E. Cooper, Assoc.M.Inst.C.E. (President), presided over a recent meeting of the Liverpool Engineering Society, when Mr. Arthur C. Auden, Assoc.M.Inst.C.E., read a paper on "Modern Developments in the Structure and Equipment of Large Buildings." Mr. Auden said the design, construction, and equipment of large buildings have during the past few years undergone many radical changes and developments, principally through the introduction of "framework" construction. The advent of the modern "skyscraper" in the United States of America marked the beginning of this revolution in design, and the departure from the older methods of construction, in which the outer walls carried the loading, to the "framework" building in which all the loads are carried by beams and stanchions, the walls forming merely an outer shell. For some time this method of construction made but little headway in this country, although its adoption in America had proved its stability, rapidity of erection, and economy in first cost, but once tried it quickly found its way into favour, and now most large modern buildings in this country are designed on these lines. There are two methods of carrying out this form of design—*i.e.*, by the use of structural steelwork and by reinforced-concrete construction. The former was the material used in all the first "framework" buildings, but reinforced concrete is now proving a very serious competitor, and when its immense possibilities in every form of constructional work are more fully appreciated there is no doubt but that it will invariably be preferred. In all large buildings the question of providing a firm and secure foundation for the loads transmitted by the piers and columns is of vital importance, as on this depends the ultimate stability of the entire structure.

THE BUILDING TRADE.

THE STRIKE CLAUSE IN A CONTRACT.

BY A LEGAL CONTRIBUTOR.

THE prospect of an extensive lock-out in the building trade will tend to make the builder examine the terms of his contract with a view to seeing how far he is protected against the consequences of delay caused by the lock-out.

Where the contract is silent it may be taken that the mere fact of delay being caused by a strike is no excuse for a breach of contract. For instance, the charterer of a vessel, having undertaken to provide a full cargo of coals, is not excused by a strike of the colliers making it impossible to procure a cargo. Where, however, coal has to be loaded or supplied "within a reasonable time" it is conceived that the occurrence of a strike might have effect to extend the reasonable period.

For instance, in another shipping case a bill of lading specified no time for discharge. During the unloading a strike occurred which delayed the ship twenty-five days longer than otherwise would have been the case. In these circumstances it was held that the obligation on the consignee was to unload within a reasonable time, and the obligation was discharged if he unloaded in a reasonable time in the circumstances, assuming that those circumstances, so far as they caused delay, were not caused or contributed to by him.

A variety of interesting questions may arise for determination even in cases where, to all appearances, the rights and liabilities of parties are all set forth in black and white. First and foremost, what is a strike? If an employer suddenly announces his intention to reduce wages by one-half, and, owing to the consequent stoppage of work he is unable to fulfil his agreement, is he excused?

It seems to have clearly been decided that a strike, in its legal sense, includes a stoppage which may have been more or less voluntary so far as the employer is concerned. Thus, in one case a colliery company agreed to supply 4,000 tons of coal to one P. at the daily rate of supply of 16 tons. In the event of a strike the company was not bound to keep up the daily supply. A strike occurred owing to the company's workmen refusing to accept a reduction of wages proposed by the company, and lasted for four months, during which the company delivered no coal. At the end of the strike P. refused to take any more coal. It was held that the strike was equally a strike although caused by a threat to lower wages; that the effect of the strike was merely to postpone deliveries; and that P. was bound to accept the coal remaining undelivered. It was also held that the delay was not such as to entitle P. to consider the contract at an end in the commercial sense. (King *v.* Parker, 1876, 34 L. T. N. S. 887.)

The question sometimes arises whether an arbitary stoppage by the men, as if for a holiday, amounts to a strike within the meaning of the clause. In the case of an arbitration between Messrs. Allison & Co. and Rose Richards, which was heard by Mr. Justice Wright on November 5, 1903, it appeared that on April 1, 1903, the plaintiffs entered into a charter party to carry a cargo of coal on their steamship to Leghorn. The charter party contained a clause providing as follows:—

"The cargo to be loaded in 130 running hours (excluding Sundays, Custom House, colliery and local holidays, Easter Monday and Tuesday, Whit Monday and Tuesday)." And further: "Any time lost through riots, strikes, lock-outs, or any dispute between masters and men occasioning a stoppage of pitmen, trimmers, or other hands connected with the working or delivery of the coal for which the steamer is stemmed; or by reason of accidents to mines or machinery, obtructions on the railway or in the docks, or by reason of floods, frosts, fogs, or storms, or any cause beyond the control of the charterers, not to be computed as part of the loading time."

The colliers belonging to the colliery from which the coal was taken gave notice that they would work on Good Friday and the next day, but that they would take the Wednesday after Easter Monday, and on that day all work was stopped. It was contended on the part of the plaintiffs that demurrage was payable in respect of the Wednesday upon which the men refused to work, inasmuch as it was not a "holiday" within the meaning of that term as used in the charter party. Further, it could not be said to be a stoppage caused by a strike, as there was no dispute with the masters, who had done nothing either by way of approval or disapproval. It was argued on the other side that although this Wednesday may not have been a "holiday" within the meaning of the charter party, yet the stoppage on that day was a stoppage *ejusdem generis* with loss of time caused by strikes, lock-outs, etc. The late Mr. Justice Wright gave judgment for the defendants. He said: "This was a holiday not within the control of the masters, and was, therefore, not within the exception contained in the charter party. I am inclined to think, however, that a holiday taken by the men without the concurrence of the masters is sufficiently *ejusdem generis* with stoppage of work caused by a dispute between masters and men, and perhaps of strikes, and therefore within the exception."

Where a builder is employed to carry out works he is generally well protected against strikes. For instance, engineering contracts usually contain some such clause as this:

"The contractors are to complete the whole of the works (except painting and papering, or such other work as the architect may desire to delay) within —— calendar months after the commencement of the same, unless the works be delayed by reason of any inclement weather, or causes not under the contractor's control; or in case of combination of workmen, or strikes, or lock-out affecting any of the building trades, for which due allowance shall be made by the architect."

Strikes and lock-outs are specially provided for by the R.I.B.A. Form, Clause 25 of which provides that "If in the opinion of the architect the works be delayed . . . by reason of any local combination of workmen or strike or lock-out affecting any of the building trades . . . the architect shall make a fair and reasonable extension of time for completion in respect thereof. In case of such strike or lock-out the contractor shall, as soon as may be, give to the architect written notice thereof."

Those London builders who are at present working under the R.I.B.A.—and they are probably numerous—should be careful to give the notice specified in this clause.

FRUITS OF LARKINISM.

WITH the peace terms settled in Dublin and Mr. McLaughlin's speech to the general meeting of the National Federation of Building Trades Employers (both fully reported in last issue) before us it is now possible to estimate the value of the results achieved by the enthusiasm of Mr. James Larkin, the devotion of the working classes of Dublin, and the splendid financial support (in the neighbourhood of £100,000) accorded by the English trade unions in the recent struggle with the employers of Dublin.

Whatever opinion one may hold as to the objects sought by Mr. Larkin and his followers, one must respect the bravery, fortitude, and devotion they manifested throughout the grim struggle of some twenty-six weeks' duration. One may feel compelled to conclude that the objects sought were unfortunately chosen; if so, what a pity that so much courage and solidarity was not directed to better ends!

What the operatives set out to do is not very clear, but apparently a policy was being pursued which caused working-rule agreements to be broken and sympathetic strikes to abound, upon which was grafted personal challenges and mutual defiances between the leading personalities on both sides.

So far as the building trade of Dublin was concerned, the builders' labourers and their employers were on good terms when the trouble with the transport workers came to a head. The labourers, however, had federated with the other trades in Dublin, and were drawn into the struggle, whereupon the employers naturally threw in their lot with the other employers. Knowing the issue now pending in London between the Employers' Association and most of the building trades operatives' unions, and the nature of the guarantees for the loyal observance of working-rule agreements by the rank and file demanded by the employers, let us see what the settlement is in Dublin. The Executive of the United Builders' Labourers and General Workers of Dublin Trade Union undertakes on behalf of the members:—

(*a*) That none of its members will remain, or become in the future, members of the Irish Transport and General Workers' Union.

(*b*) That its members will not take part in or support any form of sympathetic strike.

(*c*) That they will handle all materials, no matter from where or how delivered, and carry out all instructions given to them in the course of their employment.

(*d*) That they will work amicably with all other employees, whether they be members of a union or not, and will not in any way interfere with, or make any objection to work with, those who have already signed any agreement.

The penalty for a breach of any of the foregoing undertakings is immediate dismissal from the union.

In addition to that undertaking, each individual labourer who is a member of the said union will, on applying for employment, sign and hand to his employer a card purporting that he is a member of the said union and agrees to act in accordance with the said undertaking which the union has given on his behalf. On cessation of employment the undertaking to be returned.

It will be observed that there is no mention of any financial guarantee, as in the notice of the London employers, but in effect there is a larger monetary guarantee in the Dublin case than in the London one, because dismissal from a trade union involves loss of benefits. Members probably pay in from 40s. to 50s. a year, so that after the first six months of membership the guarantee becomes a substantial one, and every year makes it greater. Thus the outcome of the struggle is that the union undertakes to abstain from sympathetic strikes and refusals to work with other workmen, guarantees its members shall conform to their undertaking, takes financial hostages from them for their good behaviour, and makes every individual member personally assume the like obligation to every employer who employs him.

This conclusion must be eminently satisfactory to the employers; indeed in future employers are likely to desire to follow the precedent set in Dublin; but what an outcome for the policy—if it can be called a policy—associated with the name of Mr. James Larkin, and henceforth known as Larkinism!

So much for the effect of the struggle on the workers. What about the employers? According to Mr. McLaughlin, the contractors, even small firms, have to a man stood loyally together throughout the fight. They had not a single withdrawal from the Association, while some fifteen or twenty came in and joined in the fight (how eminently Irish!) who were not members of the Association, and much financial help has been forthcoming from England. Of course, financially all have suffered on both sides; but on both sides the struggle has brought out fine qualities of solidarity and fortitude, and perhaps that is the best outcome of it all.

To the writer, however, it seems a misfortune that a state of war should exist between those two parties whose interests are most vitally bound up with the welfare and advancement of the building trade. He would fain see hostility converted into an *entente cordiale* under which they would give up exploiting one another and instead co-operate for their common advancement. What is wanted in both camps is a wider sympathy, a broader outlook, and a nobler solidarity which would enable them to see that their present conflict is a fratricidal one.

EIGHTH MANCHESTER BUILDING TRADES EXHIBITION.

THE Eighth Manchester Building Trades Exhibition is now nearing completion, and will be opened on Tuesday, March 3, by the Right Hon. the Lord Mayor of Manchester (Alderman D. McCabe, J.P.). The chair will be taken by Alderman J. H. Wilson, Chairman of the Improvements Committee.

The management inform us that, in addition to the majority of the old exhibitors being represented, a large number of new firms have taken space and are supporting the Exhibition. Firms are exhibiting from London, Belfast, Birmingham, Liverpool, Blackburn, Darwen, Oldham, etc., as well as Manchester.

Model buildings will be on view, and these should prove of interest to architects and other professional men, for whom special days have been set apart, viz.:—March 5 and 11, between the hours of 11 a.m. and 4 p.m.

The Exhibition director is Mr. Charles H. Luke, joint managing director of Messrs. Walter Cawood, Ltd.

PAINTERS AND PAINT MANUFACTURERS.

MR. C. E. WILKINSON (President) took the chair at a meeting of the Paint and Varnish Society, held on January 22 at the Hall of the Royal Society of Arts, when Mr. F. Scott Mitchell gave a paper on "The Present Relationship between Painters and Paint Manufacturers."

Mr. F. Scott Mitchell said that, looking back over an experience of thirty-five years' continuous connection with the paint and varnish trades, one could not help being struck with the remarkable changes that had taken place in the relationship between painters and paint manufacturers during that period. The chief points of interest throughout his remarks were based on the fact that, while the quality of the operative painter had been steadily deteriorating for twenty or thirty years, the products of the manufacturer had been advancing by leaps and bounds to meet the requirements of the master painter under new conditions now existing, which the manufacturers were wise enough to foresee would be the natural outcome of the gradual disappearance of the qualified painter. The old-fashioned paint manufacturer used to be content to go on grinding pigment to a stiff paste in oil or turps, and a few special stainers in water, producing from these wonderful and mysterious raw materials—plus a judicious admixture of barium sulphate—various qualities of paints, and supplying these to the consumer together with linseed oils, turpentine, white-lead, driers and sundries, including the supply of dry colours for producing distempers and for the use of coach painters. Most of them were doubtless aware of the remarkable prejudice of the painter in favour of his beloved white-lead—easy working, solid coating, but poisonous and unprofitable white-lead. Although this useful commodity still held a unique position in the trade requirements, it had been only by many years of untiring work and hard drumming that manufacturers had been able to convince the consumer that white-lead was not the Alpha and Omega of the trade, and it was now generally admitted that white-lead had been superseded for high-grade work by materials which relegated white-lead to its proper place as an undercoating, though it was still employed as the best preservative where that quality is the chief consideration. The use of finest ground paints at the present time was much more extensive than ever it had been in the history of the trade. He had come to regard this as the natural outcome of a process of evolution whereby the manufacturers had taken up the work formerly considered the prerogative of the painter, and which in former generations had been included in the training of painters' apprentices. Without disrespect to the trade, he thought it was the master painters of the present and last generations that were to blame for the lack of competent, all-round craftsmen to-day, and their replacement by the simple "brush hand" working under a more or less competent foreman, who in turn might be directed by an intelligent salesman, lacking in knowledge of the trade, employed in the decorating department of a furnishing draper.

In these circumstances was it any wonder that, in face of the strongest possible prejudice on the consumers' part, modern methods of the enterprising manufacturer had at last secured the trade for those who prepared materials in the best possible manner, ready for immediate application to all kinds of work, in every variety of grade and shade, better made in most cases than the qualified painter could possibly accomplish in the good old days with the materials at his command, because of the up-to-date specially-designed machinery now in use by the manufacturer for scientific production of finely-ground and closely incorporated ingredients, where formerly hand-mixing alone had to be depended on, and the best results in high-class work were only achieved by constant and laborious smoothing down of each coat of paint, double the number of coats being necessary as compared with present-day methods, using modern materials for equal and even better results?

Mr. Mitchell dealt at some length with the question of education, and urged that employers should allow their improvers time during ordinary working hours for tuition under qualified instructors in properly-equipped day classes. The lecturer next sketched the history of ready-made paints, which, he said, commenced in real earnest in this country with the introduction of the present-day white enamels about 1894. The enamel had triumphed, and probably was now one of the largest items in the output of any large manufacturer of paints, varnishes, and enamels. Then came the introduction of prepared paints, and the painter was up in arms and said he would have none of it. But it was a growing necessity to the consumer, and those firms whose productions came up to their guarantees eventually broke through trade prejudice and by really assisting expert painters with detailed descriptions of ingredients used had secured their favours, and at the same time helped the less competent brush hand to the use of proper materials for each process he took in hand. In conclusion, Mr. Mitchell spoke of the surprising number of paint mixtures on the market, and produced specimens of work with considerably fewer coatings of prepared paints, which inferentially, he claimed, was equal to or better than the work done by the application of a much larger number of coatings of paint prepared in the old-fashioned way. He spoke of the assistance given by the manufacturers to the painters in the way of printed directions, and so on, and claimed that the paint manufacturer of the present day was the friend and colleague of the painter.

A large number of speakers took part in the subsequent discussion, which was carried on to a late hour; and, in the main, the views expressed were antagonistic to those held by Mr. Scott Mitchell.

Mr. J. D. Crace said he could look back sixty years, and never had he known of fourteen coats of paint, as mentioned by the lecturer. Four or five coats ought to be sufficient for the best decoration ever executed. He was one of the old-fashioned people who believed that white-lead was the best, the most facile, and the most durable of any paint, and, further than that, they knew all about it. White-lead paint was founded on a very simple compound, and provided that the materials were pure—which could be easily tested—they knew exactly what they had to deal with. Mr. Mitchell had mentioned that one of the objects of technical education was to make the students properly acquainted with the properties of his materials. But how could that be done with patent paints? The student did not know what he was using, and did not know what precautions to take beyond the printed instructions which were given. He maintained that no one could satisfactorily execute work if he did not know what he was using. He knew that many patent paints gave excellent results, but still there were failures which could not be accounted for, and for external work, at any rate, where preservation was one of the great objects, he did not think anything was so good as the old-fashioned white-lead. What one did not learn at a technical school was how to meet difficulties. The student had good tools, and worked under the best conditions, but he was not taught to be prepared for the chances in life. Another thing was that the use of prepared paints made it unnecessary for the master to know so much about his business as when he had to mix his colours to meet local conditions. He also thought that the tendency to increase the number of pigments was extremely bad for ultimate results, and for students the number of pigments should be strictly limited.

Mr. Milton endorsed the views of Mr. Crace, and thought the decrease in the skill of the painter was due to want of proper wages and the want of continual employment.

Mr. Thornbury considered that the evolution of which they had heard was due to social and economic changes. In the old days people lived in a house for years, and the decorator was called in and decorated the house in a manner which would last for years. Now, owing to increased travelling facilities, they had a moving population, and people lived in jerry-built houses, and this was all against good work. They were getting near the point where the manufacturer would do the decorating also, and then they would see what the relationship between the decorator and the manufacturer was.

Mr. Anderson (London Master Decorators' Society) considered that the relationship between the manufacturers and the painter would be better if the manufacturers did not exaggerate so much.

Mr. Wallbrook, as a manufacturer, spoke of the growing use of prepared paint even in Scotland, and said this was due to a large extent to the socialistic demands of the workmen. Whether that was for the ultimate good of the painter he did not know, but, as a manufacturer, one must note the signs of the times. Manufacturers might make mistakes, but the high-class manufacturer to-day was in business to make money, and was shrewd enough to realise that he must give the best materials that his experience led him to believe was suitable for particular work.

The President remarked that the paper divided itself into two divisions. In the first place, Mr. Mitchell dealt with technical education; and, secondly, he held a brief for the manufacturers. He thought the paint manufacturer was the friend of the painter for the reason that they got better materials than they ever had before owing to the improvement in the machinery for paint grinding and manufacture.

WAGES IN THE BUILDING TRADE.

BRADFORD.—Advances in wages of ½d. per hour will be paid to the plasterers and labourers as from March 1. The present rate for the former is 9d. per hour and for the latter 6½d. per hour.

DURHAM CITY.—The bricklayers have given notice, expiring on May 1, 1914, for an advance in wages of 1d. per hour (9d. to 10d.). The carpenters and joiners are asking for an increase of ½d. per hour (9d. to 9½d.) as and from May 9, 1914.

GLOUCESTER.—The following increases in wages are notified to take effect on and after March 1 next:—Carpenters and joiners and bricklayers, from 8½d. to 8¾d. per hour; masons', bricklayers', and plasterers' labourers, from 5¼d. to 5⅜d. per hour.

LONDON.—The dispute in the building trade still continues. The Parliamentary Committee of the Trades Union Congress are endeavouring to act as peacemakers. The assistance of the Committee was obtained by a deputation from the Executive Committee of the London Building Industries Federation. After the meeting Mr. C. W. Bowerman, M.P., Secretary of the Parliamentary Committee, said: "We are convening a Conference of representatives of the national unions engaged in the building trades for Friday, to consult with a view to the possibility of bringing about a Conference between the masters and the men."

MERTHYR TYDFIL.—On and after March 1 an advance in wages of ½d. per hour (9d. to 9½d.) will be paid to the plasterers.

SUNDERLAND.—An advance in wages of ½d. per hour (9½d. to 10d.) will be paid to the plasterers as and from March 2, 1914. Slight alterations have also been made to the working hours. The bricklayers and stonemasons are asking for increases of ½d. per hour (10d. to 10½d.) and fixers (10½d. to 11d.) from May 1, 1914.

TEES-SIDE (HARTLEPOOLS, MIDDLESBROUGH, AND STOCKTON).—The stonemasons have given notice, to expire on May 1 next, for an advance in wages of 1d. per hour to bankers and fixers.

TYNESIDE (NEWCASTLE, NORTH SHIELDS, SOUTH SHIELDS, AND BLYTH).—The following notices, to expire on May 1, 1914, have been received by the Master Builders' Associations in these districts:—Bricklayers, stonemasons, plasterers, and joiners, for an advance of ½d. per hour (10d. to 10½d.), and labourers for an advance of ½d. per hour (6¾d. to 7¼d.).

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the Building Trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur:—

——	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Newcastle	10	10	10	10	9½	10	9	6½	6½	6½
Sunderland	10	10	10	9½	9½	9	9	6½	6½	6½
Darlington	9	9½	9	9½	9½	9	7½	6½	6½	6½
Stockton-on-Tees	9	10	9½	10	9½	9	8½	7	7	7½
Bradford	10	10	9	9	9½	10	8½	6½	6½	6½
Halifax	9½	9	8½	8½	8½	9	8½	6½	6½	6½
Hull	9½	9½	9½	9½	9½	9½	8½	7	7	7
Leeds	10	10	9½	9½	9	9½	8	7	7	7
Sheffield	10	9½	9½	9½	9½	9½	8½	6½	6½	6½
York	9	9½	8½	9½	9½	8½	7½	6½	6½	6½
London	11½	11½	11½	11½	—	1s.	9	7½	7½	7½
Brighton	8-9	8	8	—	—	—	—	—	—	—
Portsmouth	9	9	9	9	—	8	7½	6½	6½	6½
Southampton	8½	9½	9½	8	—	9½	8½	6½	6½	6½
Maidstone	9½	9½	9½	9½	9	9½	7½	6	6	6
Bristol	9½	9½	9½	9½	—	9½	9	6½	6½	6½
Plymouth	9	9	9	9	—	9	7½	6	6	6
Bath	7½	7½	8	8	7½	7½	7	5-5½	5-5½	5-5½
Cheltenham	8½	8½	8½	8½	—	8½	7½	5½	5½	5½
Exeter	8	8	7½	7½	7½	7½	6½	5	5	5
Gloucester	7½	8½	8½	7½	7½	8½	7½	5½	5½	5½
Hereford	7½	8	7½	8	7½	7	6½	5	5	5
Stroud	7½	7½	7½	7½	7½	7½	7	5	5	5
Blackburn	10	10	9½	9	9½	9½	9½	6½	7	7
Bolton	10	10½	10	10½	9	10	9	—	—	—
Liverpool	11	11	11	10	10	10	9½	6½	6½	6½
Manchester	10	10½	10½	11	9	10	9½	6½	6½	7½
Oldham	10	10½	10	9½	9	10	9½	6	7	7½
Preston	9½	10	9½	9	8½	9	8½	5½	6	6
Birmingham	10	10	10	10½	9	10½	9	7	7	7
Derby	9½	9½	9	9	9	9	8	6	6	6½
Leicester	9½	9½	9½	10½	9	9½	8	7	7	7½
Nottingham	10	9½	9½	10	9	9½	9	7	7	7½
Norwich	8	8	8	8	8	8	6½	5	5	5
Cambridge	9	8½	8½	9	8	9	7	5½	5½	5½
Oxford	9	8	8½	8½	8	8½	7	6	6	6½
Southend	9	9	9	9	Piece-work	9	?	6	6	6
St. Albans	9	9	9	10	8½	9	8	6	6	6
Grays	—	10	10	—	—	—	8½	7	7	7
Cardiff	9½	9½	9½	9½	9½	9½	8½	6½	6½	6½
Swansea	9	9	9	9	8½	9	8½	6	6	6
Newport	9	9	9	9	8½	8½	8½	6	6	6
Chatham	8	9	8½	9	9	8½	7	5½	5½	5½
Birkenhead	11	11	11	10½	10	10	9½	6½	6½	6½

The mason's rate given is for bankers; fixers usually ½d. per hour extra.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

THE Building Acts Committee of the London County Council have consented to the following applications under the London Building Acts, 1894 to 1909:—

Lines of Frontage and Projections.

Chelsea.—Erection of wooden hoods, bay-windows, and cornices to Nos. 15-21, Vale-avenue, Chelsea, as shown on the plans submitted with the application of Mr. F. E. Williams on behalf of Mrs. F. M. Williams.

City of London.—Erection of a projecting hood over the entrance to an office building on the southern side of Great Tower-street, City, as shown on the plans submitted with the application of Mr. A. Blomfield.

Dulwich.—Erection of projecting porches to four houses adjoining No. 87, Underhill-road, and two houses adjoining No. 63, Overhill-road, Dulwich, as shown on the plan submitted with the application of Mr. A. R. Westworth.

Hackney, South.—Erection of a building on the north-eastern side of Sidney-road, Homerton, to the line shown on the plan submitted with the application of Mr. C. G. Stanham on behalf of Mr. J. Isaacs.

Strand.—Erection of a projecting clock, projecting sign, and facia at No. 6, Grand Hotel-buildings, Charing Cross, as shown on the plans submitted with the application of Mr. H. M. Wakley on behalf of Messrs. S. Smith & Sons.

Strand.—Erection of a projecting clock at Koh-i-Noor House, Kingsway, as shown on the plans submitted with the application of the Standard Time Company, Ltd., on behalf of Messrs. L. & C. Hardtmuth, Ltd.

Wandsworth.—Erection of porches, barge-boards, and concrete gables to two houses on the north-eastern side of Lucien-road, Tooting, as shown on the plan submitted with the application of Mr. H. H. Foster on behalf of Mr. H. J. Mulliner.

Lines of Frontage and Construction.

Hammersmith.—Erection of a temporary messroom on the northern side of Ducane-road, Hammersmith, westward of Wulfstan-street, as shown on the deposited plan submitted with the application of Mr. M. Potts.

Line of Frontage and Space at Rear.

Poplar.—Subject to the parties interested entering into an undertaking not to claim the passageway shown on the plan, consent be given to the erection of buildings upon a site on the northern side of East India Dock-road, Poplar, abutting upon Abbott-road, as shown on the plan submitted with the application of Mr. C. Dunch.

Space at Rear.

Kennington.—Erection of buildings upon a site on the western side of Newburn-street, Kennington, next to Sancroft-street, with irregular open spaces at the rear, as shown on the plans submitted with the application of Mr. G. Bartlett on behalf of the Duchy of Cornwall.

St. George, Hanover-square.—Erection of an addition at the rear of No. 46, Grosvenor-place, St. George, Hanover-square, as shown on the plans submitted with the application of Messrs. G. Trollope & Sons and Colls & Sons, Ltd., on behalf of Mr. E. E. Sassoon.

Deviation from Certified Plans.

Marylebone, East.—Erection of an addition to the Radium Institute, Ridinghouse-street, St. Marylebone, as shown on the plans submitted with the application of Mr. T. P. Figgis on behalf of the Committee of the Radium Institute.

St. George, Hanover-square.—Re-erection of No. 1, Park-lane, Piccadilly, as shown on the plans submitted with the application of Mr. Delissa Joseph.

Alteration of Buildings.

Hoxton.—Erection of an additional story at Nos. 11-21, Paul-street, Finsbury, as shown on the plans submitted with the application of Mr. A. R. Henderson on behalf of Messrs. W. Macqueen & Co., Ltd.

Formation of Streets.

Greenwich.—Laying-out of a new street for foot traffic only out of the northern side of Roan-street, Greenwich, as shown by the plan submitted on behalf of the Roan Schools Foundation.

Southwark, West.—Laying-out of a new street, for carriage traffic to lead from Great Suffolk-street to Loman-street, Southwark, as shown by the plan submitted on behalf of the Ecclesiastical Commissioners.

SEWERS, KELMERSDALE.

The Skelmersdale Urban District Council have now accepted the scheme of intercepting sewers and sewage disposal works for their district at an estimated cost of £12,250. The works will be on the bacterial system. The engineers are Messrs. Taylor & Wallin, of Newcastle-upon-Tyne and London.

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; L.G.B. for Local Government Board; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

ABERYSTWYTH.—Plans passed for house and shop at 10, Northgate-street, for Mr. L. Samuel.

Alnwick.—Plans passed:—Warehouse, office, etc., for Mr. T. R. Reavell. The U.D.C. have again considered the question of providing houses for thirty persons outside the condemned area in Clayport, and have now approved a site near the gasworks, ¼ mile out of the town, favoured by the L.G.B. Inspector and the Duke of Northumberland, and have decided to ask the Committee to go forward with the scheme.

Altrincham.—The T.C. has authorised the Housing Committee to prepare a scheme for the erection of artisans' dwellings on a plot of land which was formerly occupied by the fever hospital in Lloyd-street.

Banbury.—The R.D.C. have passed plans for a cottage at Cropredy for Mr. Neal, and for extensions to the Manor House, South Newington.

Bangor.—The B.G. have discussed plans for the construction of an entrance and board-room in connection with the new workhouse infirmary. The new infirmary will cost nearly £20,000, and the proposed entrance and board-room, according to the plans submitted, would cost an additional £3,000 or £3,500. Consideration has been deferred.

Barnet.—The Herts C.C. have agreed that, subject to the plans being approved by the Secretary of State, a new court-house be erected, at a cost not exceeding £4,050.

Barrow-in-Furness.—Plans approved:—111 semi-detached houses in Dundee-street, Farm-street, and Duncon-street, for the Cavendish Park Estate Company; three pairs of semi-detached houses in Roose-road for Mr. S. Barnett; seven dwelling-houses in Salthouse-road for Mr. R. T. Dockeray; branch bank on Promenade, Walney, for the Manchester and Liverpool District Banking Company, Ltd.; nineteen dwelling-houses in Worcester-street for Mr. John Ross; one pair of semi-detached houses at Tummer-hill for Mr. J. S. Crowdson; two houses in Park-drive for Messrs. Melville & McIlvenny; covered counters on football ground, Holker-street, for Messrs. James Thompson & Co., Ltd.

Barry.—For six months the South Wales Garden City and Town Planning Association have been negotiating for the acquisition of an extensive tract of land forming part of Coldknap Farm, near Barry, for the purpose of laying-out a garden city. Subscriptions sufficient to guarantee the erection of at least 200 houses, to be chiefly occupied by working men, have been received. The site is one of the most healthy possible. The site faces south, and overlooks the extensive pebble beach, Coldknap, with Barry Harbour to the east, and Rhoose Point to the west, beyond the cliffs leading to Porthkerry Park. It is estimated that nearly 400 houses may be erected on the site.

Blackburn.—Plans passed:—Addition to bottling store, Quarry-street, by Messrs. D. Thwaites & Co., Ltd.; five houses, Infirmary-street, by Mr. W. Edmundson; additions to nurses' home, East Lancashire Infirmary, by the Board of Management; alterations to Westwood, East Park-road, by Mr. James Smith; extension to Lion Brewery, Coniston-road, by Messrs. Nuttall & Co., Ltd.; sections of new streets, off Bentley-street, by Mr. James Martindale; nine houses, off Bentley-street, by Mr. James Martindale; plan of two houses, Sandy-lane, by Mr. W. Livesey; extension to warehouse, Salford, by Messrs. James Pickup & Co., addition to works, 7 and 9, Grantham-street, by Mr. A. Tattersall; and addition to mills, Ewood Mills, Bolton-road, by Messrs. James Livesey, Ltd.

Bolton.—Plans passed:—Messrs. Marsden & Co., transformer house at Burnden Bleachworks; Messrs. Hughes Brothers, nine houses in Normanby-street, Hulton; Messrs. W. H. Morris & Sons, houses in Greenmount-lane, Heaton; Mr. G. Harris and Mr. E. P. Holden, motor garage in Greenmount-lane and Albert-road respectively; Messrs. Radcliffe, semi-detached houses in Church-road, Smithills; Messrs. Okell & Sidell, billiard hall in Shepherd Cross-street; Messrs. T. Cross & Co., Ltd., lavatories at Mortfield Bleach-works; Messrs. Barlow & Jones, Ltd., additional story to Prospect Mill (No. 3), Prospect-street; the Bromac Engineering Company, new roof in Clive-street; Messrs. Walker's, lime-shed in Fletcher-street; Dr. Rees, motor-shed in Cooper-street; Messrs. Magee, Marshall, & Co., Ltd., alterations to cottages in Willows-lane; Messrs. Crosses & Winkworth, Ltd., air chamber to No. 1 Mill, Lever-street; Messrs. William Townson & Sons, Ltd., extension of offices in Park Hill-street; Mr. J. J. Harrison, eighteen houses in Hulton-lane.

Boston.—Plans passed for bakehouse in Argyle-street for Mr. W. H. Lammie.

Bournemouth.—Plans passed by T.C.:—Additions, Lansdowne Hotel, Messrs. Eldridge Pope

* See also our list of Competitions, Contracts, etc., on page 205.

& Co., Ltd; additions, 105, Poole-road, Miss Williams; four shops, offices, etc., Seabourne-road, Messrs. Lawrences; additions, "Greta," Queen's Park, West Drive, Mr. R. Thorn-Waite; additions, rear of 148, Wimborne-road, Mr. J. Davies; additions, "Trelawney," The Avenue, Redhill Estate, Miss Blackley; motor shed house, plot 3, Portman-crescent, Mr. R. Holly; additions, house, Montagu-road, Messrs. F. W. Mills & Sons; additions, houses, plots 14, 15, and 16, Stirling-road, Mr. J. J. Elkins; house, Stokewood-road, Messrs. Lambert & Son; additions to house, Kimberley-road, Mr. C. Brown; house, Beechwood-avenue, Mr. F. W. Burton; house, Wilfred-road, Mr. A. Barnes; house, Firs Glen-road, Mr. H. Moores; house, corner Woods View and Firs Glen roads, Mr. H. Moores; additions, 16, Wycliff-road, Messrs. C. Pike & Sons; three houses, Bingham-road, Mr. E. Burridge; pair houses, Redhill, Mr. J. Osborne; house, Queen Mary-avenue, Mr. F. Moorman; additions, 128, Holdenhurst-road, Messrs. H. J. Tuson, Ltd.; garage, rear of Nos. 1 and 3, Parker-road, Mr. T. Dean; house, corner Hill Brow and South-bourne roads, Mr. F. Pond; additions, Bank-some Dene, Alumhurst-road, Sir Ernest Cassel; vestries, St. Peter's Church, St. Peter's-road, the Vicar and churchwardens; house, Milton-road, Mr. S. M. Davis; additions, "Ravenscliff," East Cliff, Mr. L. Binns; two houses, Pine-avenue, Mr. H. B. Mudge; house, Browning-avenue, Messrs. Barnes & Pond; store, rear of 117 and 119, Wimborne-road, Mr. E. P. Hall; house, Green-road, Miss Hudson.

Bradfield.—Plans passed by R.D.C.:—Additions to house at Ilsley-road, Streatley, for Mr. A. Littleton; cottage at Burnt-hill for Mr. P. A. Barnett; cottage at Dingley-hill for Mr. E. Johnson; three houses at Basildon and four at Streatley for Capt. Morrison; two houses at Streatley for Mrs. Morrell; two houses at Streatley for Mrs. Reiss; and one house at Yattenden for Dr. Brodribb.

Bradford.—The Health Committee propose that the City Architect be instructed to proceed with the preparation of plans for additional houses to be erected on land at Faxfleet-street, now used as allotment gardens. The Baths Committee propose to construct cottage baths in the basement of the new Tennyson-place branch library at a cost of £420.

Braintree.—Plans passed by U.D.C.:—Two cottages by Mr. A. G. Wicks for Mr. J. Bishop Young on the old malting site in the London-road, and for the extension of Mr. J. Bradbury's workshops in New-street.

Buckie.—A site in East Church-street has been acquired on which to erect a new post-office.

Burnham-on-Crouch.—Plans for additional buildings for the Royal Corinthian Yacht Club have been passed.

Chelmsford.—Plans passed:—House, Swiss-avenue, for Mr. R. Swallow; shop and offices, Rainsford-road, for Mr. W. M. Fison; twelve houses in three blocks, Henry-road, for Mr. G. W. Smith; new stores off Moulsham-street for Messrs. H. & T. C. Godfrey; house, Coval-lane, for Mr. J. Browne; and pair of houses, Coval-lane, for Mr. Browne.

Chester-le-Street.—Arcade shop front for Messrs. Doggart.

Chippenham.—The T.C. are seeking sanction for a loan of £2,460 for the erection of twelve workmen's dwellings.

Chorley.—The Borough Surveyor has prepared plans for the erection of public baths at the corner of Clifford-street and Union-street. Plans have been passed for a weaving-shed for 200 looms in Tootell-street for Messrs. Horsfall, Marshall, & Barton, Ltd., and a block plan of proposed weaving-shed for Mr. Joseph Blackledge.

Crompton.—Plans passed for six cottages and a house and shop in Duchess-street for the Duchess Spinning Company.

Darlington.—The T.C. have agreed to erect spray baths in the baths at a cost of £300.

Daventry.—The R.D.C. have decided to purchase land at Braunston on which to erect eight cottages.

Derby.—Mr. Coulthurst, architect, has submitted plans of the proposed extension of the lower and upper male Infirmary block, to make provision for sixteen additional beds, for the B.G.

Dewsbury.—Plans approved:—United Congregational Church, new Sunday-schools in Kilnroad; Dewsbury Pioneers' Industrial Society, Ltd., restaurant and shops in Halifax-road; Mr. J. Crossley, fifteen houses in Savile Town; and Mr. G. H. Peace, four houses in Bennett-lane, Leeds-road.

Doncaster.—The contract for the widening of the Great Northern Railway bridge over the South Yorkshire Canal in the vicinity of the Doncaster Station has been placed with Messrs. Braithwaite & Kirk, of West Bromwich.

Dudley.—The T.C. have decided to erect a new Town Hall and Municipal Buildings at a cost of about £40,000.

Dumbarton.—The foundation-stone of the Dumbarton Building Society's first cottages on the Overtoun Estate has just been laid. They are situated in the Newtown District, the scheme at present embracing the erection of twenty double three-room and kitchen houses. They front a new street, are in Dumfries red sandstone, and a 5-ft. space is to be allowed on each side of the kerb for the planting of trees. The architect and clerk of works for the scheme now in hand is Mr. John Campbell, Dumbarton, and the principal contractor is Mr. John Taylor, Clydebank.

Dunfermline.—In view of the impending developments at Rosyth, the Gas Committee of T.C. propose to spend a sum of £8,200 in making additions to the works in order to be able to cope with the increased demand.

Edinburgh.—Warants granted by Dean of Guild Court:—George Heriot's Trust, rifle range at Heriot's Hospital; Messrs. Wallace & Begg, alterations, 20, Young-street; Scottish Union and National Insurance Company, new saloon, 35, St. Andrew-square; and Miss Jane Bolton, alterations, 154, Lauriston-place.

Evesham.—Sir Charles Swinfen Eady proposes to erect eight more cottages for Norton people, and Mrs. Bomfordy, of Spring-hill, will erect three at Harvington.

Finchley.—Plans passed by U.D.C.:—Seven stables, Great North-road, submitted by Messrs. Ball Brothers, Ltd.; two houses, Hervey-close, north-east and south-west sides, submitted by Messrs. Edmonsons, Ltd.; three houses, Cavendish-avenue, east side, at junction with Mountfield-road, submitted by Mr. J. Webb; two motor garages, rear of houses G. and H., Bishops-avenue, submitted by the Hampstead Heath Extension Tenants, Ltd.; balcony, almshouses, East Finchley, submitted by the Finchley Charities; ten houses, south side of Friern Watch-avenue, submitted by Mr. F. W. Walker; conversion of existing stables and workshops into eight motor garages, west side of Bibbsworth-road, submitted by Mr. J. Chellingsworth; two houses, Woodberry-way, south side, submitted by Mr. R. Ellwood; eight houses, Finchley-avenue, north and south sides, submitted by Mr. C. W. Scott; proposed motor garage and greenhouse at Ravensdene, Holden-avenue, submitted by Dr. T. Stevenson; and eight houses, Sylvester-road, north and south sides, submitted by Mr. W. A. Goring.

Fylde.—The R.D.C. have approved plans for the building of two cottages at Weeton for the Earl of Derby; two houses at Bryning for Mr. T. Smith; additions to a bungalow at Migland-lane, Marton; laundry at Salwick Hall, for Mr. J. T. Clifton.

Gateshead.—The trust deed under the Shipley Bequest has been sealed, and the T.C. will become possessed of £30,000 for the erection of an art gallery. The executors have promised to submit to the committee sketch plans of the proposed gallery, which are being prepared by their architect, Mr. Arthur W. Stockwell.

Gillingham.—Plans passed:—Three houses, Trinity-road, for Mr. J. Smith, submitted by Mr. E. J. Hammond; two houses, First-avenue, for Mr. G. B. Silver; bungalow, Pine-grove, Hempstead, for Mr. F. Brush, submitted by Mr. J. Dobbie; bungalow, Spring-vale, Wigmore, for Mr. E. W. Smith, submitted by Mr. F. T. Mattocks; ten houses, Barnsole-road, for Mr. W. Dobson; thirteen houses, Selborne-road, for Mr. Masters, submitted by Mr. A. E. Goodhew; shop and premises, 135, Canterbury-street, for Messrs. W. E. R. Randall & Sons, submitted by Mr. W. E. R. Randall, jun.; seven houses, Barnsole-road, for Mr. John Green, submitted by Mr. H. Harris.

Hawick.—Plans for a new dairy for the Co-operative Society, estimated to cost £3,000, have been passed by the T.C.

Hazel Grove.—Plans approved:—House for Mr. D. Wilson, Syddall-road, Bramhall; stable for Messrs. Gosling & Stafford, London-road; house for Mr. Broadhurst in Bramhall Park-road; additions to workshop, etc., for Messrs. Corrie & Co., Lumb-lane; addition to golf club for Stockport Club at Torkington; addition to branch stores for Hazel Grove Co-operative Society at Bosden Fold-road; three houses in Buxton-road, Hazel Grove, for Mr. James Green.

Headington.—Plans passed by R.D.C. for a new cinematograph theatre to be built in the London-road, which will be under the management of Mr. Horace Froude.

Hereford.—The T.C. have decided to erect sixteen cottages on a part of the Eign Mill site, the cottages to be let at not exceeding 4s. each per week clear, and also to erect four cottages on the Crozens site, to be let at 5s. per week clear.

Hetton.—It has been decided by the U.D.C. that negotiations be entered into with respect to the erection of dwellings under the Housing of the Working Classes Act, 1890, and with owners of land which might be considered suitable for the erection of 100 houses, and that a building committee be appointed.

Higham Ferrers.—Plans passed:—Mr. W. Hector, house in the North End; Messrs. Luck & Andrew, factory in the North End; Messrs. C. Palmer & Co., washhouse at the rear of their shop in the Market-square.

Hornsea.—The U.D.C. has decided to make use of the spare ground at the Mere side, upon which to erect six or eight cottages, at an estimated cost of £170 each.

Hull.—Plans passed:—Mr. J. W. Smith, sixteen houses, Wharncliffe-street; Mr. H. Smith, eight houses, Huntingdon-street; Tower Palace Company, picture hall, Anlaby-road; Strand Theatre Company, Ltd., picture hall, Beverley-road; Messrs. Blackmore & Sykes (amended), picture hall, Cleveland-street; Hull Oil Manufacturing Company, Ltd., additions, Stoneferry; Messrs. Powolny, Ltd., additions, King Edward-street; Mr. J. E. Wray, nine houses, Park-avenue; Mr. J. E. Wray, twenty houses and one shop, Lee-street; Mr. W. Garbutt, sixteen houses, Oak-street, Marfleet.

Ilford.—Plans passed by U.D.C.:—Mr. A. E. Brown, two houses, 57 and 59, Cowley-road; Messrs. W. Bradford & Sons, alterations and additions to Lord Napier public-house, Green-lane; Mr. L. Randall, new entrance to laundry buildings, Goodmayes-avenue; Mr. W. E. Trent, alterations and additions to house and shop, Green-lane; Mr. W. J. Hobbs, conservatory, 147, Cranbrook-road; Mr. J. Hoanam, additions to 73, Goodmayes-lane; Mr. H. Jones, for Great Eastern Railway, coal offices, Station Bridge; Mr. H. C. Marston, seven houses, Balfour-road; Mr. A. T. Haines, cellars at 17 and 18, and conservatories at 12, 13, and 17, Cromer-terrace, Vicarage-lane; Mr. F. W. Hitchcock, eight houses, 145 to 159, Cambridge-road; Mr. G. Lewin, house, 15, Seven Kings-road; Mr. E. J. Jenner, seven houses, 63 to 75, Cranbrook-road; Mr. R. C. Arnold, house, Holcombe-road.

King's Heath.—The Worcestershire Territorial Force Association are proposing to erect a drill hall.

Leeds.—The T.C. have decided that plans and estimates be prepared for building general offices for the Tramways Department upon vacant land belonging to the Corporation at the corner of Swinegate and Bridge End.

Lincoln.—The T.C. have decided to apply to the L.G.B. for sanction to borrow £9,000 to purchase land in Wragley-road for the erection of workmen's dwellings. Plans passed:—Mr. W. T. Priestley, sixty-two houses, Bathurst-street; Mr. W. F. Berry, two houses, Kingsway; the Trustees, two new classrooms, cloakroom, etc., Friars'-lane School; Mr. W. J. Dawson, mission-room, Drury-lane.

Loughborough.—Plans passed:—Alterations to premises, 14, Bedford-square, for the trustees of the late Mr. Henry Barker; open shed adjoining Dead-lane for Messrs. T. Barker & Sons; motor-house, etc., Burton-walks, for Mr. E. Denison Taylor; two washhouses, etc., Freehold-street, for Mr. J. W. Taylor; workshop, Ashby-road, for Mr. F. Shipley.

Lutterworth.—The R.D.C. are proposing to erect twenty-three workmen's houses immediately and seven later.

Manchester.—The Corporation have decided to provide public washhouses on the land now owned by them adjoining Moss Side, Cheetham, and Newton Heath baths respectively.

Midhurst.—The R.D.C. have decided to purchase half an acre of freehold land at Milland for the erection thereon of four cottages.

Mold.—The U.D.C. have decided to provide a new fire-station for the town. The expense incurred is to be limited to £500.

Newcastle-on-Tyne.—A L.G.B. inquiry has been held with regard to the application of the T.C. to borrow £7,968 for the provision of a recreation ground between Denton-road and Denton Burn, and to borrow £1,265 for the construction of public conveniences in the North-road and Carliol-street.

Newport.—Mr. L. D. Whitehead (of Messrs. Whitehead & Co., Deighton Iron and Steel Works, Tredegar) has had an interview with the Newport overseers to discuss terms which could be given to the firm if they established their works at Mendelgief, Newport. If the negotiations with the Tredegar Estate for 18 acres of land are concluded, it is expected that the erection of the new works will be started in April next.

Northampton.—An amended scheme for the provision of public baths has been adopted by the T.C. At the Licensing Sessions an application by the Northampton Brewery Company to rebuild the Malt Shovel public-house was agreed to. Applications to rebuild the Spade and Plough (owners, Messrs. Phipps & Co.), to alter the Rifleman's Arms (Messrs. T. Manning & Co.), and the Sewing Machine (Messrs. Phipps & Co.), were held over.

Nottingham.—The T.C. have decided to carry out alterations at the Victoria Bath so as to make the building suitable for a public hall.

Nuneaton.—Plans passed:—Offices, etc., Abbey-street, for the Nuneaton Co-operative Society, Ltd.; addition to house, Dugdale-street, for Mr. W. Green; three houses and shop, Princes and Norman-avenue, for Mr. Geo. Cooper; extensions to Board Inn, Market-place, for Messrs. Ravenscroft & Sturgess; eighteen houses, Heath End-road, for Mr. H. Hardy; two houses, Camp Hill-road, for Mr. S. Whitehead; seven houses, Arbury-road, for Mr. James Cooper; shop, etc., Bridge-street, Nuneaton, for Messrs. J. C. Smith & Sons.

Oswestry.—The R.D.C. have decided to apply to the L.G.B. for their approval of Messrs. Berrington's plan and estimate of £872, and their sanction to a loan of £900 for the laying of new water-mains to Weston Rhyn.

Paisley.—Plans passed by Dean of Guild Court:—The Union Bank of Scotland, to make internal alterations on their premises in Gilmour-street; Messrs. Clark & Co., thread manufacturers, to make an addition to their works at Seedhill; and Mr. Ralph Brown, builder, to erect a two-story tenement on the west side of Love-street.

Pencoed.—A L.G.B. inquiry has been held into an application by the Penybont R.D.C. for sanction to the borrowing of £10,750 for providing a sewerage system for Pencoed.

Pittenweem.—The T.C. have agreed to purchase for the sum of £140 the School Board building from Pittenweem School Board for the purpose of converting the same into a new Town Hall.

Poole.—The T.C have decided to apply to the L.G.B. for sanction to borrow £3,360 for the Alderney Hospital extension.

Reading.—Plans passed by T.C.:—Alterations and additions to Queen's-road premises of Messrs. W. Kingham & Sons; four cottages in Uplands-road, Caversham, for Mr. T. H. Knight; house in Basingstoke-road for Mr. T. E. Day; house in Priest-hill for Mr. T. E. Knight; alterations at Crown Hotel, Caversham, for Messrs. Blandy, Hawkins, & Co.

Riccall.—The R.D.C. have considered plans and estimate by Mr. Bruce Gray, their Engineer, for the provision of a water supply for Barlby, and will apply to the L.G.B. for a loan of £3,000 for the scheme.

Ridgeway.—The Narberth U.D.C. has approved of plans for building a dozen workmen's cottages at Ridgeway, Saundersfoot, and decided that estimates be obtained from builders for the erection of cottages in blocks of two, four, and twelve.

Rochdale.—The T.C. have decided to purchase for £12,500 the Springfield Estate, Marland, as a site for a sanatorium for the treatment of consumption. The estate covers nearly 100 acres.

Romford.—Plans passed by R.D.C.:—Six houses in Eustace-road, Chadwell Heath, for Mr. J. T. Inman; two cottages at Pyrgo Park,

Havering, for Lord O'Hagan; two houses, Gaynes-road, Upminster, for Messrs. Dowsing & Davis; one house, Woodland-avenue, Hornchurch, for Mr. J. A. H. Bishop. Plans passed by U.D.C.:—An addition to 1, Ivy-cottages, Main-road, for Mr. G. Robson; additions, bungalow in Mawneys-road for Mr. G. Lloyd; and three houses in West-road and four houses in Wolseley-road for Mr. J. H. Gurney.

Rosyth.—The Town Planning Committee of the T.C. has had under consideration a letter from the Admiralty in regard to the laying-out of the Government land at Rosyth, and giving particulars as to the conditions on which land would be given off for main roads, feuing, etc. The Committee regarded the letter as satisfactory, and agreed to recommend the T.C. to accept its terms. It is believed that while the terms of the letter imply new planning arrangements for the Admiralty's land, it will hasten the completion of the town plan for the whole of the Rosyth area, and, by leading to an early start being made with the erection of the new town, will overcome the depression in the local building trade, which has been almost stagnant for more than a year pending the adoption by the L.G.B. of the city's whole scheme of town planning.

Rageley.—Plans passed by U.D.C.:—Cottage in the Brereton-road for Mr. Willis Turner, and a new house in Anson-street for Mr. W. E. Rogers.

St. Anne's.—The U.D.C. have decided to ask the sanction of the L.G.B. to borrow £39,100 for the new sewerage scheme.

Selby.—The Selby Transport and Warehousing Company, who act as carriers to the Olympia Works and other undertakings, have prepared plans for building sixty additional cottages on the Barlby side of the river, where the company recently acquired 200 acres of land.

Stamford.—The T.C. have passed plans for eight cottages on the Ryhall-road for Mr. W. Savage and for alterations to Messrs Hunt's brewery.

Stevenage.—The Herts C.C. have decided to erect a court-house at a cost of £5,000.

Stockton.—The T.C. has appointed a Sub-Committee to draw up a scheme for a new free library, to be submitted to the Carnegie United Kingdom Trust. It has been decided to appoint Mr. Ivan C. Barling, M.Inst.C.E., to inspect a site with a river frontage of 1,000 ft., for the purposes of a new wharf, and report to the Council. The Borough Engineer has presented a report on the proposed new accommodation for the Corporation offices on the site of the Borough Hall and adjoining land.

Sunderland.—A plan by Mr. G. T. Brown has been approved by the T.C. for two houses of a proposed block of houses in Wellington-lane on the site of Messrs. Wallis's foundry.

Swansea.—The Swansea Harbour Trustees' Executive have decided upon the provision of a large cold stores for the port. The cost of the scheme is £50,000, and the accommodation to be provided is half a million cubic feet. An important scheme in the building development of the Strand, Swansea, is in hand, and will shortly be proceeded with. Mr. David Vaughan, who has large lodging-house interests there, has decided to erect eighty tenements. The cost will be, approximately, £10,000.

Swindon.—Plans passed by T.C.:—Mr. S. Nethercot, house, Goddard-avenue; Mr. E. H. Bradley, eighteen houses, Kingshill-road; Mr. J. Clark, shop front, 150, Manchester-road; Messrs. Parnall & Son, shop front, 44, Bridge-street; Messrs. Bowly & Co., additions to bottling shed, High-street Brewery.

Taunton.—Conditionally upon £14,000 being subscribed for the necessary buildings, Mr. H. W. Wills has offered to give 100 acres of land near Taunton, valued at about £7,000, for the purposes of a farm colony for the feeble-minded of Somerset and Bristol.

Thaxted.—An appeal is being made for £5,000 to put the very fine old church of Thaxted, Essex, into proper repair. At present the fabric is in considerable danger.

Tilbury.—Plans for the Tilbury Constitutional Club, fronting the Broadway, have been approved. The L.G.B. have sanctioned plans and estimates, amounting to £2,000, for the making-up of Christchurch-road and the northern ends of Toronto and Quebec roads.

Torquay.—The T.C. has approved of plans of the proposed medical baths and large swimming bath at the Bath Saloons, and in principle of the proposed Babbacombe cliff railway.

Tynemouth.—The L.G.B. have held an inquiry into the T.C.'s applications for compulsory power to purchase lands for the widening of Bell-street and Liddell-street, North Shields, and to borrow £1,575 for purchasing Rosella House Field, North Shields, for a recreation ground.

Ulverston.—The L.G.B. have sanctioned the U.D.C. borrowing £3,000 for a public hall.

Upton-on-Severn.—The L.G.B. have sanctioned the application of the R.D.C. to borrow £876 for erecting four cottages at Castlenorton.

Ventnor.—Arrangements are being made for the erection of a new bandstand on the Devonshire Cliffs. A large area has been walled in, giving much additional seating accommodation for the band performances and al-fresco concerts.

Wallasey.—The L.G.B. have held an inquiry into the application of the T.C. to borrow £5,860 for the erection of a new central fire-station in Manor-road, Liscard, and the purchase of a residence for the superintendent; £1,950 for the purchase of two motor fire-engines; £8,725 for the widening and improvement of Claremont-road, Breck-road, and St. Hilary-brow, Wallasey, and Wallasey-road, Liscard; and £995 for the provision of public gardens between Breck-road and St. Hilary-drive, Wallasey.

Walton-on-the-Naze.—The L.G.B. have held an inquiry into the Council's application for sanction to borrow £500 for the purpose of the construction and maintenance of Burnt House Groyne.

Wantage.—The L.G.B. have granted the application of the R.D.C. for sanction to borrow £890 for erecting four working-class dwellings at Harwell.

Westhoughton.—The U.D.C. have approved of plans and an estimate of £3,068 2s. 8d. for sewage works, and the necessary application to borrow the money will be made to the L.G.B.

Wisbech.—Plans have been sanctioned for a new church at Walpole Marsh, to seat 180, and cost £400.

Wishaw.—Plans have been passed for an addition to the administrative block of the hospital at a cost of about £2,500.

Witham.—The Surveyor has been instructed to obtain plans for a new reinforced concrete bridge at Guithavon-road.

Worksop.—The Golf Club has decided to lay-out a new course and build a pavilion at a cost of about £650.

Worcester.—Plans for a new school in Stanley-road, estimated to cost £9,970, have been approved by the T.C.

GENERAL BUILDING NEWS.

NEW BUILDING, KINGSWAY, W.C.

A large site, containing an area of upwards of 25,000 superficial ft., is now being cleared in Kingsway, W.C., for the new head offices, showrooms, etc., of the General Electric Company, Ltd., of Queen Victoria-street, E.C. The architects for the new building are Messrs. George & T. S. Vickery, Gresham-street, E.C.

HOUSING SCHEME, SOUTH LONDON.

For some time clearing operations have been in progress on the Duchy of Cornwall Estate, Kennington, and the work of rebuilding model cottages and flats has attracted attention. The scheme, though far from complete, is now in a state for inspection, and some idea may be obtained of the improvements to be effected. The work is being carried out by Messrs. S. D. Adshead, F.R.I.B.A., & S. C. Ramsey, A.R.I.B.A., Great Russell-street, W.C. The builders are Mr. G. Brittain, Kennington-road, S.E.; Messrs. John Garrett & Son, Balham-hill, S.W; Mr. James Parsons, Waterloo-road, S.E.; and Messrs. Hooper & Son, South Lambeth, S.E.

DWELLINGS, KENNINGTON, S.E.

Extensive demolitions have been made in the neighbourhood of St. Mary's Church, Kennington, and on the site bounded by the Kennington Park-road, Penton-place, and Canterbury-mews will be built a number of dwellings for the working classes. There will be twelve blocks of buildings, each five stories high, or 228 tenements. The cost, exclusive of land, will be about £46,500, and the funds will be provided by the Guinness Trust. The architects are Messrs. Joseph & Smithem, Queen-street, Cheapside. There will be one, two, three, and four roomed tenements. Bath-rooms will be provided in a separate block, and covered playgrounds, shelters, cycle-sheds, etc.

ADAPTATION OF A TUDOR FARMHOUSE.

Referring to a paragraph under this heading in our last issue, we omitted to mention that the whole of the restoration of "Culmer," Witley, Surrey, including additions and drainage work, has been carried out by Mr. A. J. White, builder, of Witley, under the direction of Mr. W. D. Caröe, M.A., the architect.

TRADE NEWS.

Under the direction of Mr. S. Wilson Reside, architect, Newry, the "Boyle" system of ventilation (natural), embracing Boyle's latest patent "air-pump" ventilators and air-inlets, has been applied to the Masonic Hall, Newry. Boyle's latest patent "air-pump" ventilators and ventilating appliances have been applied to Roffey Schools, Horsham.

The basements of the Tyne Dock Masonic Hall, which were excavated and built on the site of an old building, have recently been successfully rendered with a lining of the waterproofing powder, "Pudlo."

The Infectious Diseases Hospital, Exeter, is being supplied with Shorland's double-fronted patent Manchester stoves with descending smoke flues and special inlet ventilators by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester. The extensions to the Workhouse, Bishop Auckland, are being supplied with the firm's patent exhaust roof ventilators.

SOME RECENT WILLS.

The late Mr. David Hughes, of Stanley Grange, Penyffordd, Co. Flint, retired builder and contractor, and member of the Wallasey District Council, has left estate to the value, gross, of £95,586. The estate of the late Mr. John Thomas, of "The Vernons," Cressington, Liverpool, contractor, has been proved as of the gross value of £32,485, and that of the late Mr. William Alexander Peters, of Ryefield, Rochdale, contractor, as of the gross value of £64,304.

TRADE CATALOGUES.

The Kohler Company, of Kohler, Wisconsin, U.S.A., of which Mr. Walter J. Kohler is the President, have sent us a catalogue of their various manufactures. The firm have been established upwards of forty years, and are one of the largest manufacturers of porcelain enamelled iron sanitary ware in the United States. They have recently opened offices and showrooms in London at No. 329, High Holborn, W.C. Many excellent designs are to be found in the catalogue, and we understand that they are manufacturers of a complete line of sanitary ware. The European manager of the firm is Mr. W. B. Clark.

Messrs. John Hamer & Co., of 63, Queen Victoria-street, E.C., have issued an eight-page pamphlet describing the various lifts of which they are the manufacturers. They had sold up to November last 3,092 of their patent hand safety lifts, the special features of which are the combination brake, and self-sustaining mechanism and polished T-steel runners, ensuring absolute silence in running. Other lifts are described.

A JUBILEE DINNER.

Messrs. G. A. Williams & Son, of Queen's-road, Bayswater, held their jubilee dinner on Monday, February 9, at the Food Reform Restaurant, Furnival-street, Holborn. The firm was established in 1864, and the dinner, which was given to celebrate their jubilee, was presided over by Mr. Alfred Williams, who responded to the toast of "The Firm," proposed by Mr. J. J. Bird. Other toasts of the evening included "The Staff," proposed and seconded respectively by Mr. Charles Constable and Mr. H. Smith; "The Patrons," proposed by the Chairman and responded to by Mr. Jenner; and "The Visitors," also proposed by the Chairman, the response being made by the Town Clerks of Paddington and Southwark.

EMPLOYERS AND THE TRADE DISPUTES ACT.

At a meeting of the Employers' Parliamentary Council, held at 25, Victoria-street, Westminster, on February 4, to consider the "grave industrial situation due to the Trade Disputes Act and to the unchecked conspiracy of labour unionism against private freedom and public welfare," arrangements were made to hold a mass meeting of representatives of the associations of employers connected with the various industries in the United Kingdom to urge upon the Government the need for an inquiry into the working and the effects of the Act, to determine "whether the present unlimited area in which picketing in unlimited numbers may be carried on should not be restricted and the number of pickets regulated by statute, whether combinations for disorganising trading and social conditions should not be made unlawful, and whether it is not of national interest that all unions should be subjected to the ordinary law of the land, and made responsible, like all other classes, for their actions."

SAMUEL ELLIOTT & SONS (READING), LTD.

We have received a copy of a circular letter which is being issued to merchants, giving some particulars of the new company that has just been formed to take over the old-established business of Messrs. Samuel Elliott & Sons, Ltd., of Reading. Mr. Sydney W. Tubbs, F.C.A., who was appointed Receiver and manager on November 1, 1911, under an order of the High Court in a debenture holder's action, informs us that the works are situated on the company's freehold land of about 5½ acres on the northern banks of the Thames at Reading. The main workshop is some 300 ft. long and 150 ft. broad. The company is equipped with up-to-date machinery, and turns out joinery work of the highest grade. A great development has taken place, and Mr. Tubbs pays tribute to the ability and zeal of Mr. Albert S. J. Elliott, who has acted as his technical manager throughout the whole of the Receivership. He was joined more than a year ago by Mr. Cyril Lyons, who was appointed manager of the new shopfitting department which was opened, and which has been the cause of part of the increased output. These two gentlemen, together with Mr. Cecil Elliott (the firm's representative in London) and Mr. H. G. Ord-Young, A.C.A., Mr. Tubbs' *alter ego* in charge of the counting-house, have worked together for two years with very successful results. The Receiver has now completed the sale of the business to a new company, which has been formed for the purpose of taking over all the assets and the goodwill of the old business. Mr. Ezra Dunham, who is a well-known builder and contractor at St. Albans, has provided practically all the capital. His son has taken up his residence at Reading as one of the practical managers of the business.

List of Competitions, Contracts, etc.

For some contracts still open, but not included in this List, see previous issues. **Those with an asterisk (*) are advertised in this number:** Competitions, iv.; Contracts, iv. vi. viii. x.; Public Appointments, xxvi.; Auction Sales, xxxii. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

*** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

* FEBRUARY 18.—**Weymouth.**—WORKING-CLASS HOUSES.—The B.C. of Weymouth and Melcombe Regis invite competitive designs for erection of working-class houses. Three per cent. on amount of accepted tender for design adopted, and two premiums of £10 and £5 respectively for designs placed second and third.

FEBRUARY 21.—**Carcroft.**—WESLEYAN CHURCH.—The Trustees of the proposed new Wesleyan Methodist church invite architects to submit competitive designs. Particulars of Mr. J. C. Starkie, solicitor, 52, Hallgate, Doncaster.

MARCH 2.—**Hendon, N.W.**—The Hendon U.D.C. invite architects to submit designs in competition for the erection of public baths at The Burroughs, Hendon. Premiums, £100, £75, and £50 respectively. See advertisement in issue of January 9.

MARCH 20.—**Belfast.**—ART GALLERY AND MUSEUM.—The Belfast Corporation invite designs for above buildings. Total cost not to exceed £75,000, of which only £30,000 will be spent at once. Assessor, Mr. John J. Burnet, A.R.S.A., LL.D. See advertisement in issue of November 7.

APRIL 1.—**Sofia.**—DESIGNS FOR A ROYAL PALACE AND LAW COURTS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinghall-street, E.C. See page 173, August 9, and page 350, September 27, 1912; also page 708, June 20.

APRIL 2.—**Ottawa.**—DEPARTMENTAL AND COURTS BUILDINGS.—The Department of Public Works, Ottawa, invite architects to submit sketch designs in a preliminary competition for above buildings. Six will be chosen from those for final competition. The five unsuccessful competitors will receive $3,000. The winner will be entrusted with the work. See particulars in issue for September 19 and advertisement in issue of September 12.

MAY 4.—**London.**—ST. PAUL'S BRIDGE.—The Bridge House Estates Committee of the Corporation of London invite designs from British architects for the architectural treatment of St. Paul's Bridge. Premiums, £300, £200, and £100 respectively. The assessor is Sir William Emerson, P.P.R.I.B.A. See advertisement in issue of December 12.

* MAY 15.—**Home Counties.**—LABOURERS' COTTAGES.—The proprietors of *Concrete and Constructional Engineering* invite designs for labourers' cottages. Premiums 100 guineas, 50 guineas, and 25 guineas respectively, and two at 10 guineas each.

* JUNE 20.—**Orillia.**—MONUMENT.—The Executive Committee of the Champlain Tercentenary Committee invite competitive designs for a monument to Samuel de Champlain. Not to cost more than £4,100.

JANUARY 15, 1915.—COLLEGE MEMORIAL LECTURE HALL.—Designs for the Alexander Thompson Travelling Studentship must be delivered by the above date.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

FEBRUARY 14.—**Oundle.**—Contractors desirous of tendering for the erection of the new buildings in connection with the Isolation Hospital at Oundle for the U.D.C. should apply to the architects, Messrs. Traylen & Son, of 16, Broad-street, Stamford. Tenders to be delivered on March 2. Deposit, 10s. 6d.

* FEBRUARY 16.—**Chester.**—ALTERATIONS AND ADDITIONS.—The Chester Asylum Committee invite tenders for certain alterations and additions.

FEBRUARY 16.—**Denbighshire.**—SCHOOLS.—Erection of the following works:—Pentrellyncymmer new school, to accommodate seventy-two, together with school house (3 miles from Cerrig and 12 miles from Denbigh); Nantyr new school, to accommodate sixty-four (3 miles from Glyn Ceiriog); new school house, in connection with Glyn Ceiriog Council School; new school house, in connection with Ruabon new Council School, for the Denbighshire Education Authority. Persons willing to tender should forward names to Mr. W. D. Wyles, County Architect, Wrexham. Deposit, £1 1s.

FEBRUARY 16.—**Gellygaer.**—BUILDINGS, ETC.—Forming roads and paths, drainage, erection of chapel, lodge, conveniences, boundary walls, etc., at cemetery (area 8 acres) at Gwaelodybrithdir, for the Gellygaer U.D.C. Quantities of Mr. Frank Read, A.M.Inst.C.E., Engineer and Surveyor, Council Offices, Hengoed, Glam. Deposit, £2 2s.

FEBRUARY 16.—**Radcliffe.**—DEMOLITION.—For the demolition of buildings comprising the Bull's Head Hotel, three houses and shops, and adjoining outbuildings, situate in Church-street, Radcliffe, and the clearing and levelling of the site, for the Radcliffe U.D.C. Specification of Mr. W. L. Rothwell, Engineer and Surveyor, Council Offices, Radcliffe, near Manchester.

FEBRUARY 17.—**Cluny.**—RECONSTRUCTION.—Mason, carpenter, slater, plaster, plumber, and painter works of reconstruction of U.F. Church, Cluny. Quantities, etc., of Messrs. Wilsons & Walker, architects, 375, Union-street, Aberdeen.

FEBRUARY 18.—**Carlisle.**—ALTERATIONS.—Various trades required for alteration of four shops into gentlemen's outfitting department, boot and shoe department, and confectionery shop and tea-rooms, including new fronts and fixtures, in Botchergate, for the Carlisle South-End Co-operative Society, Ltd. Quantities of Mr. S. W. B. Jack, architect and surveyor, 19, Lowther-street, Carlisle.

FEBRUARY 18.—**Southport and Crumpsall.**—RAILWAY STATION, ETC.—For (1) extension of Chapel-street Station, Southport; (2) extension of goods yard at Crumpsall, for the Lancashire and Yorkshire Railway. Quantities, etc., at the Engineer's Office, Hunt's Bank, Manchester.

FEBRUARY 18.—**Thurnscoe.**—STABLE, ETC.—Erection of stable, outbuildings, and temporary offices in Lidgett-lane, Thurnscoe, for the Thurnscoe U.D.C. Quantities of Mr. Thomas Bull, M.I.Mun.E., Surveyor, Council Offices, Thurnscoe. Deposit, 10s. 6d.

FEBRUARY 19.—**Culmstock.**—BRIDGE.—Reconstruction of Culmstock Bridge over the River Culm, adjoining Culmstock Station, for the Devon C.C. Specifications, etc., of Mr. W. P. Robinson, County Surveyor, 22, Queen-street, Exeter.

FEBRUARY 19.—**Hull.**—SCHOOL.—Erection of a girls' secondary school, Cottingham-road, for the Hull Corporation. Quantities, etc., of Mr. Joseph H. Hirst, City Architect, Guildhall, Hull. Deposit, £2 2s.

FEBRUARY 19.—**Richmond.**—FLOOR.—Construction of a movable floor over the first class swimming bath at the Public Baths, Parkshot, for the Richmond T.C. Specifications, etc., of the Borough Surveyor, Town Hall, Richmond, Surrey. Deposit, £1 1s.

FEBRUARY 20.—**Bodmin.**—HOUSE.—Erection of a residence in Harleigh-road, Bodmin, for Mr. W. W. R. Nicholls, of St. Austell. Specifications, etc., of Mr. William J. P. Jenkins, architect, Bodmin.

FEBRUARY 20.—**Sheffield.**—ALTERATIONS.—For alterations to offices at the Corn Exchange for the Corporation. Quantities on application to the City Architect, Town Hall, Sheffield.

FEBRUARY 21.—**Dolgelley.**—RIVER WALL.—Erection of a new wall along the river bank at Caemarian, and also along a portion of the River Arran at Caetanws. Specifications of the Surveyor, Mr. Richard Edwards, Council Offices, Dolgelley.

* FEBRUARY 21.—**Middlesex.**—RESIDENCES AND COTTAGES.—The Napsbury Asylum Standing Sub-Committee of Visitors invite tenders for erection of three pairs of semi-detached residences and six pairs of cottages.

FEBRUARY 23.—**Dorchester.**—ALTERATIONS.—For alterations and additions to No. 12, Cornhill, Dorchester, for the Corporation. Specifications of the Borough Surveyor, 21, North-square.

FEBRUARY 23.—**Paythorne.**—BRIDGE.—Partial reconstruction in masonry of Paythorne Bridge, carrying road over the River Ribble. Quantities of Mr. F. G Carpenter, West Riding Surveyor, County Hall, Wakefield. Deposit, £1.

FEBRUARY 24.—**Bury St. Edmunds.**—SHEDS.—Erection of shedding at Bury St. Edmunds Show. Specifications of Mr. Will. K. Bond, Secretary of the Suffolk Agricultural Association, 6, Butter Market, Ipswich.

FEBRUARY 24.—**Hull.**—OFFICES.—Erection of offices, etc., for Yard Master, Hedon-road, Hull, for the North-Eastern Railway Company. Quantities of Mr. William Bell, the Company's Architect, at York.

FEBRUARY 24.—**Leyton.**—ROOFING.—Stripping existing slates and reslating the roofs of the Public Baths, Cathall-road, Leytonstone, for the Leyton U.D.C. Quantities of Mr. Ernest H. Essex, A.M.Inst.C.E., Town Hall, Leyton. Deposit, £2.

* FEBRUARY 24.—**London.**—EXCAVATIONS.—The Commissioners of H.M. Works invite tenders for excavations at Mount Pleasant.

FEBRUARY 24.—**Morpeth.**—STATION ALTERATIONS.—Additions and improvements at Morpeth Station for the North-Eastern Railway Company. Quantities, etc., of Mr. William Bell, the Company's Architect, Westgate-road, Newcastle-on-Tyne.

* FEBRUARY 24.—**Wembley.**—LODGE, TOOL-HOUSE, AND CONVENIENCES.—The Wembley U.D.C. invite tenders for erection of a caretaker's lodge, tool-house, and conveniences at the Recreation-ground.

FEBRUARY 25.—**Nebo.**—CHAPEL.—Erection of a new chapel at Nebo, near Llanon, Cardiganshire. Messrs. D. Davies & Son, architects, Penrhiwllan, Henllan, S.O., Cards.

FEBRUARY 28.—**Chelmsford.**—FENCING.—Alternative tenders for the erection of the following kinds of garden fencing in connection with the Corporation's workmen's dwellings in Rainsford-lane:—(1) Close boarded fencing; (2) pale and space fencing; (3) unclimbable iron fencing. Particulars of the Borough Engineer, Municipal Offices, Chelmsford.

* FEBRUARY 28.—**Cornwall.**—CHINA CLAY DRIES, ETC.—Tenders are invited for the erection of two china clay dries, etc.

FEBRUARY 28.—**Dublin.**—COLLEGE BUILDINGS.—Erection of proposed new buildings of the University College at Earlsfort-terrace, Dublin. Mr. J. W. Bacon, M.A., Secretary and Bursar, University College, 86, St. Stephen's-green, Dublin.

* FEBRUARY 28.—**Southampton.**—CONCRETE FOUNDATIONS, ETC.—Tenders are invited for concrete foundations, fencing work to playgrounds, etc., for the Southampton C.C.

MARCH 3.—**Birkenhead.**—SHED.—Erection of a wood-sawing shed at the Birkenhead Union Workhouse for the B.G. Forms of tender from Messrs. E. Kirby & Sons, architects, 5, Cook-street, Liverpool.

MARCH 8.—**March.**—ALTERATIONS.—Additions and alterations to warehouse of Peterborough Co-operative Society, Ltd., at March. Quantities of Messrs. Townsend & Fordham, architects, Cross-street, Peterborough.

APRIL 6.—**Margate.**—RESERVOIR.—Construction of a plain concrete or brick reservoir to hold 2,000,000 gallons of water for the Corporation. Specification, etc., of Mr. E. A. Borg, Borough Engineer, 13, Grosvenor-place, Margate.

NO DATE.—**Binbrook.**—ALTERATIONS.—For alterations, including new roof and pewing, to the United Methodist Chapel and School, Binbrook. Names to Mr. F. W. DIXON, architect, Trevalyan-buildings, Manchester.

NO DATE.—**Birmingham.**—PICTURE HOUSE.—Erection of the Villa Cross Picture House, Handsworth, Ltd., in accordance with plans prepared by Mr. Hurley Robinson, A.R.I.B.A. Quantities of Mr. A. Hodgetts, '10a, Temple-row, Birmingham, Secretary.

NO DATE.—**Bolsterstone.**—ALTERATIONS.—For alterations to the Castle Inn, Bolsterstone, near Deepcar. Messrs. Edmund Winder & Co., architects and surveyors, Wharf-street, Sheffield.

NO DATE.—**Carlisle.**—BUSINESS PREMISES.—For business premises, Blackfriars-street, Carlisle, for Mr. D. Johnston. Quantities of Mr. H. Higginson, Licentiate R.I.B.A., architect, 4, Lonsdale-street, Carlisle.

NO DATE.—**Conway.**—VILLAS.—Erection of villas at Bodafon-gardens, Conway. Particulars of Mr. H. Parry Jones, architect, Conway. Deposit, 10s.

NO DATE.—**Liverpool.**—WINDOW CASEMENTS.—Supply and fixing of new wrought-iron Hopper window casements at the Workhouse, Brownlow-hill, for the Liverpool Select Vestry, in accordance with specification prepared by Messrs. Campbell & Adams, architects, and which may be obtained of Mr. Gains W. Coster, Clerk, Parish Offices, Liverpool.

NO DATE.—**Newtown.**—HOSPITAL.—The King Edward VII. Welsh National Memorial Association invite tenders for building a tuberculosis hospital at Newtown, Montgomeryshire. Particulars on application to the architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, R.S.O.

NO DATE.—**Radcliffe, etc.**—SHOPS AND HOUSES.—The Radcliffe and Pilkington Co-operative Society, Ltd., invite tenders for the erection of (*a*) a shop and eight houses, to be erected in Ringley-road, Outwood; (*b*) a shop and eight houses, semi-detached, in Countess-lane, Radcliffe; (*c*) fourteen houses, semi-detached, also to be erected in Countess-lane, Radcliffe. Quantities, etc., of Mr. John T. Proffitt, architect and surveyor, 2, Mount-street, Manchester. Deposit, £1 1s.

* NO DATE.—**Tilbury.**—ALTERATIONS AND ADDITION.—The Tilbury Constitutional Club invite tenders for alterations and additions.

[Those with an asterisk (*) are advertised in this issue.]

ENGINEERING, IRON, AND STEEL.

FEBRUARY 16.—**Glasgow.**—COOKING APPARATUS.—To supply and erect complete cooking apparatus in the kitchen at Belvidere Hospital for the Corporation. Specifications at the Office of Public Works, 64, Cochrane-street.

FEBRUARY 16.—**Halifax.**—ELECTRIC INSTALLATION.—Installation of electric lighting at West House for the Halifax E.C. Specifications from the Education Offices, 22, Union-street, Halifax. Deposit, £1 1s.

FEBRUARY 16.—**Margate.**—WATER-VAN, ETC.—Alternative tenders for the supply of (*a*) a petrol-driven or steam-driven water-van, capable of holding 1,000 gallons, to be constructed with a removable tank in order that the vehicle could be used for cartage purposes; (*b*) an 8-ton petrol-driven or steam-driven (compound engine) road-roller, fitted with scarifier and water sprayer, for the Corporation. Particulars of Mr. E. A. Borg, Borough Surveyor, 13, Grosvenor-place, Margate.

FEBRUARY 16.—**Wicklewood.**—BOILER.—Supply of a second boiler at the Workhouse at Wicklewood for Forehoe B.G. Mr. Wm. Partridge Smith, Clerk, Vicar-street, Wymondham.

FEBRUARY 16. — **Wolverhampton.** — STEEL FRAMEWORK.—Supply and erection of steel framework for coal bunkers for the Wolverhampton Corporation. Specification from Mr. S. T. Allen, Chief Engineer and General Manager. Deposit, £1 1s.

FEBRUARY 17.—**India.**—RAILWAY MATERIAL.—Supply of wrought-iron (flats and rounds) for the Bombay, Baroda, and Central India Railway Company. Specifications of Mr. S. G. Young, Secretary, 116, Bishopsgate, E.C. Charge, 20s.

FEBRUARY 16 — **India.** — STEEL. — Supply of 176 tons steel material (angles, flats, rounds, squares, and beams) for his Highness the Nizam's Guaranteed State Railways Company, Ltd. Specifications of Mr. M. T. Walker, Secretary Offices: Winchester House, Old Broad-street, London, E.C. Charge, 10s.

FEBRUARY 19. — **Southwark.** — ENGINEERS' STORES. — Supply of engineers' ironmongery, general stores, and proprietary appliances, for twelve months, for the Southwark B.G. Form of tender at the offices in Ufford-street, Blackfriars-road, S.E.

FEBRUARY 20. — **Darlington.** — IRON TANK.—Supply and erection of a cast-iron tar and liquor tank (50-ft. diameter), etc., at the Gasworks of the Corporation. Specification, etc., of Mr. Frank P. Tarratt, Gasworks Engineer, at the Gasworks. Deposit, £2 2s.

FEBRUARY 20 — **Gateshead.** — WIRING, ETC.—Wiring of the cottage homes of the Gateshead Guardians at Shotley Bridge, the number of lights required being approximately 400; also for an overhead line, 1,600 yds. long, between their power station and the cottage homes; and for sundry plant in the power station. Specification, etc., of the Guardians' Consulting Engineers, Messrs. Tennant & Barrs, Cathedral-buildings, Dean-street, Newcastle-upon-Tyne. Deposit, £1 1s.

FEBRUARY 20. — **Wombwell.**—SHAFT.—Sinking of a 21-ft. finished diameter shaft at or near their Darfield Main Colliery, Wombwell, for the Mitchell Main Colliery Company, Ltd. Specification at 25, Regent-street, Barnsley.

FEBRUARY 21.—**Bradford.**—TRAMRAILS.—Supply of steel-girder tramrails for the Corporation. Specification, etc., of Mr. W. H. S. Dawson, City Engineer and Surveyor, Town Hall, Bradford.

FEBRUARY 21.—**Ipswich.**—ELECTRICITY STORES.—Supply of (1) paper insulated cables for continuous current and alternating current three-phase systems; and (2) fused mains disconnecting boxes as well as service boxes, suitable for use with 4-core L.T. three-phase A.C. paper insulated lead sheathed and armoured mains, for the Corporation. Specifications from Mr. F. Ayton, M.Inst.E.E., Chief Engineer and Manager, Constantine-road, Ipswich. Deposit, £1 1s. each.

FEBRUARY 21.—**Nuneaton.**—ELECTRICITY PLANT.—(1) One 600-k.w. high pressure, geared, direct current, turbo-generator, complete with fittings and accessories; (2) surface-condensing plant suitable for the above; (3) pipework, valves, and accessories in connection with the above plant, for the Corporation. Specification from Mr. S. Cameron Gibson, A.M.Inst.E.E., Borough Electrical Engineer, Nuneaton. Deposit, £1 1s.

FEBRUARY 21.—**Stafford.**—EMBANKMENT.—Construction of a roadway embankment, involving the excavation, carting, and depositing of about 16,000 cubic yds. (more or less) of earth, for the Corporation. Particulars of Mr. W. Plant, A.M.Inst.C.E., Borough Engineer and Surveyor, Borough Hall, Stafford. Deposit, £2 2s.

FEBRUARY 23. — **Aberdeen.** — DREDGING.—Removal by dredging of about 205,000 cubic yds. of material at River Dee Dock No. 1 and in the River Dee for the Aberdeen Harbour Commissioners. Specification of Mr. R. Gordon Nicol, Harbour Engineer, Harbour Engineer's Office, Aberdeen.

FEBRUARY 23.—**Bolton.**—TRAMWAY MATERIAL.—Supply of varnish; trolley pole sundries; overhead material; gear and pinion wheels; brake blocks, iron castings, and malleable iron castings; motor and axle grease; waste and sponge cloths; lighting material, mica, fibre, I.R. channel, for the Corporation. Specifications of Mr. John Barnard, General Manager, Corporation Tramways, Bradshawgate, Bolton.

FEBRUARY 23. — **India.** — RAILWAY MATERIAL.—Locomotive engines and tenders—broad-gauge goods, 0—6—0, "K" class, superheated, for the South Indian Railway Company. Specifications of Mr. V. E. de Broe, M.Inst.C.E. Company's offices, 91, York-street, Westminster. Charge, £2.

FURNITURE, PAINTING, MATERIALS, etc.

FEBRUARY 16. — **Battersea.** — PITCH, ETC.—For supply of pitch and creosote oil for the Battersea B.C. Specifications at the Town Hall, Battersea, S.W.

FEBRUARY 16. — **Dublin.**—MATERIALS, ETC.—For supply of ironmongery, timber, oils, road materials, wood blocks, pipes, etc., for the Dublin Corporation for one year. Specifications of Mr. M. J. Buckley, Borough Surveyor, 28, Castle-street, Dublin. Charge, 1s. for each form.

FEBRUARY 16. — **Foots Cray.** — MATERIALS.—Supply for twelve months to the Foots Cray U.D.C. of tar-paving material, tar-macadam material, pit flints, screened gravel, fine gravel, hardcore, broken granite, granite setts, granite kerb and channel, crude gas tar. Particulars of Mr. William Augustus Farnham, Surveyor to the Council, Council Offices, Sidcup, Kent.

FEBRUARY 16. — **Higham.** — PAINTING. — For painting, etc., the Borough Central Workingmen's Club and Institute, 1, Taylor-row, Higham, Mr. G. H. Hirst, Secretary.

FEBRUARY 16. — **Leeds.** — TRAMWAY MATERIALS, ETC.—Supply of material during a year for the Tramway Committee of the Corporation. Tender forms of Mr. J. B. Hamilton, General Manager, Tramways Office, City-square, Leeds.

FEBRUARY 16.—**Swansea.**—MATERIALS.—Stores, stone, ironwork, etc., for the Swansea Corporation during the year to end March 31, 1915. Forms of tender and further particulars may be obtained at the office of the Borough Surveyor, 13, Somerset-place, Swansea, for stores and stone, and in reference to ironmongery from the Water Works Engineer, Guildhall, Swansea. Deposit (for ironmongery), £1 1s.

FEBRUARY 16. — **Warrington.** — MATERIALS.—Year's suply of wrought iron, bolts, castings, tools, oils, packing, bricks, vitriol, etc., for the Sanitary Committee. Mr. R. Wilson, Manager, Longford Depôt, Warrington.

FEBRUARY 17. — **Aylesbury.** — MATERIALS.—Supply of materials, including machine-broken granite, gravel, glazed stoneware pipes, Portland cement, ground greystone lime, sand, etc., for the U.D.C. Specifications of Mr. W. H. Taylor, Surveyor to the Council, Town Hall, Aylesbury.

FEBRUARY 17.—**Dundee.**—STORES.—Supply for one year to the Dundee District of Forfarshire of ironmongery goods, drain pipes, cement, and lime, larch stobs, rails, blocks, and white fir boarding. Schedules from Mr. J. B. Roberton, Road Surveyor, Downfield.

FEBRUARY 17. — **Nelson.** — GAS STORES.—For brass fittings, ironmongery, etc., for the Gas Department of the Nelson Corporation. Specifications of Mr. A. Morton Fyffe, Engineer, Gas Offices, Nelson.

FEBRUARY 17.—**Poole.**—STONE, ETC.—Supply of Mendip stone and chippings, Mendip limestone dust, Mendip limestone tar-paving material. Mr. Samuel J. Newman, F.R.I.B.A., Borough Surveyor, Municipal Offices, Market-street, Poole.

FEBRUARY 17.—**Portadown.**—PAINTING.—For painting of the waiting-rooms, etc., on the down platform at Portadown, for the Great Northern Railway Company (Ireland). Specification of Mr. T. Morrison, Secretary, Amiens-street Terminus, Dublin. Deposit, £1 1s.

FEBRUARY 18.—**Belfast.**—STORES.—Year's supply of earthenware sewer pipes, timber, slates, hardwood, iron castings, plumbers' work, iron and steel, paints, oils, etc., glazing, glazed bricks, artificial flags, lime, etc., for the Works Department of the Corporation. Particulars from Mr. Hector F. Gullan, M.Inst.C.E., Superintendent of Works, City Hall.

FEBRUARY 18 — **Bootle.** — MATERIALS.—Year's supply of V.B. wires and cables, lead-covered cables, electric meters, fuse-boxes and terminals, stoneware troughing, oils, compound and bitumen, tiles, cast-iron service-boxes, incandescent gas mantles, lamps, etc., for the Corporation. Forms of tender at the Borough Electrical Engineer's Office, Electric Light Station, Pinegrove.

FEBRUARY 18.—**Fulham.**—ELECTRICITY STORES.—Supply of electrical stores, including engineering goods, packing, jointings, etc., tools, fusewire, and engine, turbine, and cylinder oils, for the year ending March 31, 1915, for the B.C. Mr. J. Percy Shuter, Town Clerk, Town Hall, Fulham, S.W.

FEBRUARY 18.—**Fulham.**—MATERIALS.—Twelve months' supply to the B.C. of broken granite, paving, kerbing, etc.; ballast and sand, bricks, lime, and cement, tools and implements, drain pipes, etc. Mr. J. Percy Shuter, Town Clerk, Town Hall, Fulham, S.W.

FEBRUARY 18.—**Hereford.**—MATERIALS.—Supply of materials for twelve months for the Corporation. Specifications of the City Surveyor.

FEBRUARY 16.—**Herne Bay.**—MATERIALS.—Supply for one year to the U.D.C. of lime, cement, oils, road material, ironmongery, etc. Particulars of Mr. F. W. G. Palmer, Surveyor, Town Hall, Herne Bay.

FEBRUARY 18. — **Hollingbourn.** — ROAD MATERIALS.—Supply of road materials from March to September, 1914, for the R.D.C. of Hollingbourn. Particulars of Mr H. J. Bracher, Clerk to the Council, 33, Earl-street, Maidstone.

FEBRUARY 18. — **Nottingham.** — LIGHTING REQUISITES.—Supply for one year to the Lighting Committee of the Corporation of lamps, columns, glazier's work, general repairs, mantles, etc. Forms of tender from Mr. Carter, St. John's-street, Nottingham.

FEBRUARY 18.—**Rawtenstall.** — MATERIALS.—Supply of road metal, earthenware pipes, gullies, timber, pitch, creosote oil, Portland cement (British), iron castings, tools, etc., for the Corporation. Forms of tender of the Borough Surveyor, Town Hall, Rawtenstall.

FEBRUARY 18.—**Stockton-on-Tees.**—SUPPLIES.—Articles and stores required by the Corporation for the year ending March 31, 1915. Information of the Borough Surveyor, Gas Manager, and Electrical Engineer.

FEBRUARY 19.—**Bosmere and Claydon.**—ROAD MATERIAL.—For granite, picked stones, pit stones for the R.D.C. of Bosmere and Claydon. Particulars of quantities estimated of Mr. George Fiske, Surveyor, The Red House, Coddenham, Ipswich.

FEBRUARY 19. — **Bournemouth.** — TRAMWAY STORES.—Supply of iron castings, ironmongery, paints, general sundries, for the Tramways Committee. Specification of Mr. J. Bulfin, General Manager, Tramways Offices, Lansdowne-crescent, Bournemouth. Deposit, 5s. per section (four).

FEBRUARY 19.—**Bridgnorth.**—ROAD MATERIAL.—Twelve months' supply of road material for the R.D.C. Particulars of Mr. F. Richards, Surveyor, 25, Salop-street, Bridgnorth.

FEBRUARY 19.—**Leyland.**—MATERIALS.—Supply of broken granite, slag, tar-macadam, limestone dust, rocmac, kerbs, setts, rubble concrete and natural flags, and earthenware drain pipes and irregulars, for the U.D.C. Form of tender of Mr. M. H. Wilkinson, Surveyor, Council Offices, Public Hall-buildings, Leyland.

FEBRUARY 19.—**Thakeham.**—ROAD MATERIALS.—Supply of basalt, granite, and flints for the Thakeham R.D.C. Forms of tender from Mr. W. Forrester, Surveyor, Storrington, Sussex.

FEBRUARY 19.—**Wigston Magna.**—GRANITE.—For broken granite for the Wigston Magna U.D.C., for the year ending March 31, 1915. Particulars from the Surveyor to the Council, Mr. W. G. J. Clark, Station-road, Wigston Magna.

FEBRUARY 20.—**Westminster.**—MATERIALS, ETC.—For road materials, bricks, carriageway repairs, gas fittings, tools, ironmongery, timber, etc., for the City Council. Specifications at the Westminster Town Hall, Charing Cross-road, W.C.

FEBRUARY 21.—**Banbury.**—ROAD MATERIAL.—Hand-picked and broken granite and grouse for the Banbury R.D.C. Forms of tender of Mr. E. Lamley Fisher, Clerk, Union Offices, Banbury.

FEBRUARY 21. — **Billesdon.** — GRANITE. — For year's supply of granite, broken to 2½-in., 2-in., 1½-in., and 1¼-in gauge, and granite chippings, for the R.D.C. Mr. W. E. Richardson, Clerk, 18, New-street, Leicester.

FEBRUARY 21.—**Chester.**—MATERIALS.—Supply of macadam, tar-macadam, chippings, etc., during the year ending March 31, 1915, for the Cheshire C.C. Specification of Mr. W. Holland, Deputy County Surveyor, The Castle, Chester.

FEBRUARY 21.—**Devonport.**—GAS APPARATUS.—Supply to Corporation Gas Department of cokers, etc., meters, compo. pipe, lead pipe, and pig lead, main cocks and brass goods, pendants, brackets, wrought-iron tubes and fittings, paints, oils, tallow waste, mantles, protectors, etc. Specification of Mr. W. P. Tervet, Engineer and Manager, Gasworks, Devonport.

FEBRUARY 21.—**Finsbury.**—STORES.—For year's supply to the Finsbury B.C. of castings, granite, pitch and creosote oil, Portland cement and lime, sand, ballast, etc., stoneware goods, timber, wood-paving blocks, York paving and patent stone, etc. Particulars of the Borough Surveyor at the Town Hall, Rosebery-avenue, E.C.

FEBRUARY 21.—**Hereford.**—ROAD MATERIALS.—Supply to the Herefordshire C.C. of tarred-macadam, granite, slag, etc. Forms of tender of Mr. G. H. Jack, County Surveyor, Shire Hall, Hereford.

FEBRUARY 21.—**Holborn.**—MATERIALS.—Supply of stone, gravel, sand, and ballast; timber, iron castings, baths, engineers' stores, lime, cement, and bricks; drain pipes, etc., and for builders' work for the Holborn B.C. Forms of tender of Mr. Lionel Walford, Town Clerk, Council Offices, 197, High Holborn, W.C.

FEBRUARY 21.—**Ossett.**—MATERIALS.—Supply of materials, stores, workmen's tools, etc., for one year, for the Corporation. Specification of the Borough Surveyor, Town Hall, Ossett.

FEBRUARY 21.—**Peterborough.**—ROAD MATERIAL.—Year's supply of broken granite, gravel, and slag for the R.D.C. Mr. J. W. Buckle, Clerk, 49, Priestgate, Peterborough.

FEBRUARY 21. — **Radcliffe.** — MATERIALS.—For Portland cement, ground lias lime, etc.; grit setts, granite setts and macadam, Rossendale setts, flags and kerbs, and concrete flags; stoneware pipes and gullies, cast-iron manhole and gully grates, lamp pillars. Forms of tender of Mr. W. L. Rothwell, Engineer to the Council, Radcliffe.

FEBRUARY 21.—**Sale.**—MATERIALS.—A year's supply of flags (including concrete), kerbs, grit setts, macadam, granite chippings, lime and limestone chippings and cubes, earthenware pipes, junctions, bends, and gullies, manhole covers, and other ironwork, blue bricks, etc., for the U.D.C. Particulars of Mr William Holt, A.M.Inst.C.E., Engineer and Surveyor, Council Offices, Sale.

FEBRUARY 21. — **Sowerby Bridge.**—MATERIALS.—Year's supply of materials for the U.D.C., including Portland cement, pitch, setts and kerb (Lonkey), setts, flags, and kerb (Yorkshire), granite setts, limestone chippings. Forms of tender of Mr. James Eastwood, A.M.Inst.C.E., Engineer and Surveyor, Sowerby Bridge.

FEBRUARY 21. — **Westhampnett.** — ROAD MATERIAL.—Supply of flints, gravel, etc. Mr. W. D. Rasell, Clerk, 5, South-street, Chichester.

FEBRUARY 23.—**Epsom.**—ROAD MATERIAL.—For flints, fine gravel, sand, coal, coke, cement, stoneware pipes, and granite kerb; carting of materials; and watering during the year ending March 31, 1915, for the R.D.C. Particulars of Mr. T. E. Ware, Surveyor to the Council, Waterloo-road, Epsom.

[Those with an asterisk (*) are advertised in this issue.]

FURNITURE, etc.—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

FEBRUARY 23.—**Hemel Hempsted.**—MATERIALS.—Supply for one year to the Hemel Hempsted Corporation of Guernsey granite, Leicester granite, slag tar-macadam, drain pipes and gullies, Portland cement, tools and waste, lubricating oil, castings, galvanised steam tubes and fittings, brass taps. Mr. Alfred E. Usher, Town Clerk, Town Hall, Hemel Hempsted.

* FEBRUARY 24. — **Wembley.** — SEATS. — The Wembley U.D.C. invite tenders and designs for supply of wooden or iron park seats.

* FEBRUARY 25.—**Herne Bay.**—PAINTING AND REPAIRING.—The Metropolitan Asylums Board invite tenders for painting and repairing works at St. Anne's Homes.

ROAD, SANITARY, AND WATER WORKS.

FEBRUARY 16.—**Colne.**—STREET WORKS.—For making up Greenfield-road and Oak-street, for the Corporation. Quantities of the Borough Surveyor, Town Hall, Colne.

FEBRUARY 16.—**Denbighshire.**—ASPHALTING.—Specialists in the laying of asphalt tar-paving are invited to tender for the asphalt tar-paving and maintenance for three years of work at the following Council schools:—In the Wrexham district—Brymbo, Vron, Bersham, Rhos Junior Boys, Johnstown, Cefn, and Acrefair; Denbigh—Frongoch; Ruthin—Pentrecelyn; Colwyn Bay Higher Elementary; Llanrwst for the Denbighshire E.C. Names to Mr. Walter D. Wyles, County Architect, 42a, High-street, Wrexham. Deposit, £1 1s.

FEBRUARY 16.—**Spennymoor.**—STREET WORKS.—Making of Back Tudhoe Park-terrace, for the Spennymoor U.D.C. Plans, specifications, etc., of Mr. C. R. Spencer, Surveyor to the Council, Council Offices, Spennymoor.

FEBRUARY 16.—**Todmorden.**—BOWLING GREENS.—Construction of two bowling greens at Centre Vale Park for the Corporation. Particulars from the Borough Surveyor, Municipal Offices.

FEBRUARY 17.—**Baildon.**—STREET WORKS.—For works of street repairs at West-lane, Baildon, for the U.D.C. Quantities from Mr. J. Myers, the Council's Surveyor, Baildon.

FEBRUARY 17.—**Mynyddislwyn.**—GAS PIPES.—Provision, laying, and jointing of about 147 tons of 6-in. diameter, 40 tons of 4-in. diameter, and 33 tons of 3-in. diameter cast-iron spigot and socket pipes for the Mynyddislwyn U.D.C. Quantities, etc., of the Engineer, Mr. E. Watkin Edwards, Council Offices, Pontllanfraith. Deposit, £2 2s.

FEBRUARY 18.—**Easington.**—STREET WORKS.—Making-up and paving of private streets in Haswell, Wheatley Hill, Seaton, South Hetton, Deaf Hill, and Trimdon, for the Easington R.D.C. Specification, etc., of Mr. Gilbert Waterhouse, Surveyor, Easington, Easington Colliery, Co. Durham. Deposit, £2.

FEBRUARY 19. — **Croydon.** — ROADS.—Treating about 520,000 yds. of road surface with tarvia on highways in various parts of the district of the Croydon R.D.C. Particulars of Mr. R. Chart, jun., Highway Surveyor, at the Council Offices, Katharine-street, Croydon.

FEBRUARY 20. — **Westminster.** — SANITARY.—Barging refuse from the Council's wharves during one year, or two years, or three years, from April 1, 1914. Form of tender, etc., on application at the City Hall, Charing Cross-road, W.C.

* FEBRUARY 21.—**Holborn.**—PAVING WORKS.—The Holborn B.C. invite tenders for carrying-out paving works.

FEBRUARY 21.—**Kirkcaldy.**—SEWER.—Construction of the following sewers:—(1) A new outfall sewer at Charlotte-street; (2) a 63-in. by 42-in. egg-shaped sewer from Charlotte-street to Redburn Wynd; (3) a 3-ft. diameter sewer from Redburn Wynd to Coal Wynd, for the T.C. Quantities at Burgh Surveyor's Office, Kirkcaldy.

FEBRUARY 21.—**Reydon.**—SANITARY.—Removal of house refuse and the cleansing of privies, earth-closets, and cesspools in the parish of Reydon, for one year, for the Blything R.D.C. Particulars of Mr. C. W. Flaxman, Inspector of Nuisances, Holton, Halesworth.

FEBRUARY 21. — **Walton-le-Dale.**—SANITARY.—Cleansing of pails, cesspools, and ashpits, and the removal of nightsoil, etc., at Higher Walton, for the year commencing on May 1, for the U.D.C. Specification at the Council Offices, Bamber Bridge.

FEBRUARY 23. — **Ashton-in-Makerfield.** — SEWAGE DISPOSAL.—Construction of works of sewage disposal, comprised in the following contracts:—(4) Sludge buildings; (8) hand screens; (14) air-compressor, receivers, and ejectors; (15) sludge mixer, rams, and presses, for the U.D.C. Quantities from Messrs. Banks, Fairclough, & Stephen, A.M.Inst.C.E., the Engineers to the Council, Leigh, Lancashire. Deposit, £1 each contract.

FEBRUARY 23.—**Portmadoc.**—ROADS.—For the rolling and macadamising of the rural main roads in the County of Merioneth, for the C.C. Particulars of Mr. E. Vaughton, County Surveyor, Arthog, Dolgelley. Deposit, £1 1s.

FEBRUARY 23.—**York.**—LAYING-OUT GROUNDS.—For laying-out lands at East-parade, Heworth, as public pleasure grounds for the Corporation. Quantities of Mr. F. W. Spurr, City Engineer, Guildhall, York. Deposit, £1 1s.

FEBRUARY 24.—**Ashington.**—ROADS, ETC.—Construction of roadways and footpaths, drains, and sewers, etc., at Hirst Park, for the Ashington U.D.C. Quantities from Mr. George Beaty, Surveyor to the Council, Council Offices, Ashington. Deposit, £1 1s.

FEBRUARY 24.—**Bishop's Stortford.**—WATER-WORKS.—(a) Machinery—supplying and erecting a 44-b.h.p. gas-engine and suction-gas plant, and making certain alterations and repairs to the existing pumping machinery; (b) buildings, etc.—erecting an engine-house and making certain alterations to the existing buildings, for the Bishop's Stortford U.D.C. Specification of the Engineer of the Council, Mr. Robert S. Scott, A.M.Inst.C.E., Council Offices, Bishop's Stortford.

FEBRUARY 24.—**Bury.**—SEWERING.—Laying of about 200 yds. of 9-in. sewer and connections for the Bury R.D.C. Quantities from Mr. J. Herbert Hall, F.S.I., Cooper-street, Manchester. Deposit, £3 3s.

FEBRUARY 24.—**Littleborough.**—PAVING.—For 17,000 super. yds. of granite sett paving and other works (setts provided by the Council) to be carried out in Todmorden-road and Blackstone Edge-road, Littleborough, for the U.D.C. Specifications from the Surveyor, Council Offices, Hare-hill, Littleborough. Deposit, £1 1s.

FEBRUARY 24.—**Poole.**—STREET WORKS.—Reconstruction of the High-street, Poole, including wood-block paving, new footpaths, concrete foundations, redraining, and works in connection therewith, for the Corporation. Specifications of Mr. Samuel J. Newman, F.R.I.B.A., Borough Surveyor, Municipal Offices, Market-street, Poole. Deposit, £2 2s.

FEBRUARY 24.—**Sevenoaks.**—KERB.—Supply of 900 ft. of 12-in. by 6-in. flat kerb, and 40 ft. of circular kerb, the whole to be back jointed 2 in. in depth, for the U.D.C. Information from the Council's Surveyor, Mr. S. Towlson, Council Offices, Sevenoaks.

FEBRUARY 24.—**Sevenoaks.**—SEWERAGE WORKS.—For storm-water sewerage work for the Sevenoaks U.D.C. Specification at the office of Mr. S. Towlson, the Surveyor, and forms of tender of Mr. F. W. Tifton, Clerk, Council Offices, Sevenoaks. Deposit, £2 2s.

* MARCH 10.—**London.**—CLEANING AND WATERING ROADS.—The Crown Estate Paving Commissioners invite tenders for cleaning and watering roads.

Public Appointments.

* FEBRUARY 18.—CLERK OF WORKS.—The Hemel Hempsted B.C. invite application for the above post. Salary, £3 per week.

* FEBRUARY 19.—CLERK OF WORKS.—The Guardians of the City of London Union invite tenders for above post. Salary, £3 3s. per week.

Auction Sales.

* FEBRUARY 16.—**Woodgrange Park.**—Messrs. Robins & Hine will sell by auction, on the premises, a quantity of timber.

* FEBRUARY 17. — **London, N.** — Mr. H. W. Smith will sell by auction, on the premises, the stock, plant, machinery, etc., of a builder and contractor.

* FEBRUARY 25. — **Hatton-garden.**—Messrs. E. Fox & Bousfield will let by auction a freehold building site.

* MARCH 18.—**Hendon.**—Messrs. Maple & Co. well sell by auction, at the Mart, freehold site.

* MARCH 19.—**London.**—Messrs. D. Watney & Sons will let by auction, at the Mart, a building site.

* FEBRUARY 24. — **Manchester.** — Messrs. E. Rushton, Son, & Kenyon will sell by auction, at the Thatched House Hotel, Market-place, the business of a sanitary pipe manufacturer

[Those with an asterisk (*) are advertised in this issue.]

LAW REPORT.

COURT OF APPEAL.

(Before the MASTER OF THE ROLLS, the PRESIDENT OF THE PROBATE, DIVORCE, AND ADMIRALTY DIVISION, and Mr. Justice EVE.)

Builder's Appeal in Claim under the Workmen's Compensation Act:

Barnes *v.* Evans & Co.

THIS case was heard on the 12th ult. upon the appeal of the respondents (the employers) from the award of the Judge sitting at the Blackpool County Court as the arbitrator under the provisions of the Workmen's Compensation Acts, 1897 and 1906, in favour of the applicant, the dependent of a man named Barnes, who met with an accident in the course of his employment, which resulted in his death.

Mr. Greaves Lord appeared in support of the appeal, and Mr. Ernest Williams for the applicant.

Mr. Lord said the short point raised by the appeal was whether there was any evidence upon which the County Court Judge could find that the deceased man was a workman within the meaning of the Act. The appellants were a firm of builders who at the time of the accident were engaged under a contract in building work for the Co-operative Wholesale Society at Blackpool, and in the course of that work it became necessary to have a slating subcontract entered into. On February 20, 1913, the appellants wrote to a Mr. Owen, a slater and plasterer, carrying on business at Blackpool, asking him to quote for the slating-work required to be done. Mr. Owen handed the appellants' letter to Mr. S. Barnes, the deceased, who described himself as a slater and tyler, and he wrote to the appellants offering to undertake to provide all labour for the work and to finish up to the satisfaction of the architect, for the sum of £5 5s. Appellants accepted that estimate, and, after certain correspondence had passed, the appellants agreed to slightly increase the price, at which Barnes had agreed to do the work. Barnes started on the contract work on March 13, but found some difficulty in getting a labourer to help him, labourers being scarce at that time, and he wrote to the appellants asking them to try and find him a labourer. Appellants sent him one, but Barnes discharged him upon the ground that he was unsuitable for the work, and ultimately Barnes obtained a labourer himself. On March 17 the appellants, as the building owners, were complaining of the delay in the completion of the contract work, and sent a slater and a labourer to help Barnes on the job. At first Barnes objected to their working there, but ultimately he agreed to it. It then appeared that Barnes and his labourer continued to work independently of the slater and labourer which the appellants had sent to assist on the job. Barnes provided his own tackle for the job. In the course of his employment, Barnes, on February 20, was killed. After his death the appellants paid his widow in two separate payments. They first paid her the sum due to the deceased for extra jobs which he had done upon the works, and then they added to the account the £5 5s. and £1 3s., the extra amount they had agreed to give him. From the £6 8s. they deducted the money due to Barnes's labourer, who had not been paid at the time of Barnes's death, and the money due to the men they had sent to help Barnes, and they paid to Barnes's widow the balance. The County Court Judge had decided that, owing to the appellants having sent a slater and labourer to help on the work, he was entitled to come to the conclusion that Barnes was no longer a subcontractor, but was a workman at the time of the accident. He (Counsel) contended that in so holding the learned County Court Judge had misdirected himself.

At the conclusion of the arguments, their Lordships held that there was no evidence upon which the County Court Judge could find that the admittedly independent contract which was entered into between Messrs. Evans & Co. and the deceased was changed into another contract, whereby Messrs. Evans & Co. were the masters, and the deceased the servant, and that nothing was done by Messrs. Evans & Co. after the accident which would go to show that the contract was put an end to.

The appeal was accordingly allowed, Messrs. Evans & Co. not asking for costs.

WAREHOUSE, SHOREDITCH.

A warehouse is in course of erection in Wharf-road, City-road, N., for the Gutta-Percha Company. The special apparatus for drying gutta-percha necessitates the use of rooms some 18 ft. high. The architects are Messrs. Pilditch, Chadwick, & Co., Pall Mall East, S.W., and the general contractors are Messrs. Sheffield Brothers, Dalston, N.E. The steelwork is by Messrs. H. L. Rutty & Co., Basinghall-street, E.C., and the reinforced flooring will be by the Siegwart Company.

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to THE BUILDER LTD., and not to the Editor.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples, sent to or left at this office, unless he has specially asked for them.

All drawings sent to or left at this office for considération should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience may result from inattention to this.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

METROPOLITAN ASYLUMS BOARD.

THE usual fortnightly sitting of the Metropolitan Asylums Board was held on Saturday:—

Long Reach Asylum.—The Local Government Board wrote authorising the reconstruction of two wards at Long Reach Hospital at a cost not exceeding £3,165.

Eastern Hospital.—Alterations were sanctioned at this hospital for the storage of ward linen, etc., and certain heating work.

Quantity Surveyors.—Messrs. W. T. Farthing & Son, of 46, Strand, were appointed, at a commission of 2½ per cent. on the accepted tender, to take out the quantities in connection with the extensions to the workrooms at Darenth Industrial Colony.

METROPOLITAN WATER BOARD.

AT the monthly sitting of the Board on Friday last week the following matters were dealt with:—

New Offices.—It was agreed that the Board should assent to a clause being inserted in the competition for the new offices, providing that designs shall not be rejected solely on the ground that the estimated cost of buildings to be erected in accordance therewith will exceed the limit imposed by the Board, provided such excess is not more than 10 per cent.

It was decided that the offices should include accommodation for the Clerks', Accountants', Solicitors', and Engineers' Departments, now housed at Savoy-court.

Mr. Tozer expressed the opinion that, instead of £80,000, the ultimate cost would be nearer £110,000.

Works at Battersea.—An estimate of £18,000 was submitted in connection with alterations, etc., to the Board's works at Battersea. These include the erection of a storehouse at an estimated cost of £4,500; extension of carpenters' shop, etc., £1,660; alterations to other buildings, £250; and construction of boundary wall, etc., £1,250.

OBITUARY.

Mr. R. Keith.

We regret to have to record the death of Mr. Robert Keith, a prominent Dundee architect. Mr. Keith had been in practice as an architect for over forty years, and was responsible for many large buildings. He was a member of the Dundee Town Council, and also a magistrate. His age was sixty-six.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.
Per 1000 Alongside, in River.	
Best Stocks	1 16 6
Picked Stocks for Facings	2 10 0

Per 1000, Delivered at Railway Depôt.

	£ s. d.		£ s. d.
Flettons	1 14 0	Best Blue Pressed Staffordshire	3 15 0
Best Fareham Red	3 12 0	Do. Bulinose	4 0 0
Best Red Pressed Ruabon Facing	5 0 0	Best Stourbridge Fire Bricks	4 0 0

GLAZED BRICKS—

Best White, Ivory, and Salt Glazed Stretchers	12 7 6	Double Headers	14 17 6
Headers	11 17 6	One Side and two Ends	18 17 6
Quoins, Bullnose and 4½ in. Flats	15 17 6	Two Sides and one End	19 17 6
D'ble Str'tch'rs	17 17 6	Splays and Squints	17 7 6

Second Quality £1 10s. per 1000 less than best.

	s. d.	
Thames and Pit Sand	7 0	per yard, delivered.
Thames Ballast	5 9	" "
Best Portland Cement	37 0	per ton, "
Best Ground Blue Lias Lime	20 0	" "

NOTE—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 14s. 0d. per yard delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at riy. dpt.

STONE.

Per Ft. Cube.

	s. d.
BATH STONE—delivered on road waggons, Paddington Depôt	1 7½
Do. do. delivered on road waggons, Nine Elms Depôt	1 9½

STONE (*Continued*).

	s. d.
PORTLAND STONE (20 ft. average)—	
Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 4½
White Basebed, delivered on road waggons Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 6½

Per Ft. Cube, delivered at Railway Depôt.

	s. d.		s. d.
Ancaster in blocks	1 10	Closeburn Red Freestone	2 0
Beer in blocks	1 6	Red Mansfield Freestone	2 4
Greenshill in blocks	1 10	Talacre & Gwespyr Stone	2 4
Darley Dale in blocks	2 4		
Red Corsehill in blocks	2 3		

YORK STONE—*Robin Hood Quality.*

	s. d.
Per Ft. Cube, Delivered at Railway Depôt.	
Scappled random blocks	2 10
Per Ft. Super., Delivered at Railway Depôt.	
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 8
6 in. rubbed two sides ditto, ditto	2 6
3 in. sawn two sides slabs (random sizes)	0 11½
2 in. to 2½ in. sawn one side slabs (random sizes)	0 7
1½ in. to 2 in. ditto, ditto	0 6

HARD YORK—

	s. d.
Per Ft. Cube, Delivered at Railway Depôt.	
Scappled random blocks	3 0
Per Ft. Super., Delivered at Railway Depôt.	
6 in. sawn two sides landing to sizes (under 40 ft. super.)	2 8
6 in. rubbed two sides ditto	3 0
3 in. sawn two sides slabs (random sizes)	1 2
2 in. self-faced random flags	0 5

SLATES.

Per 1000 of 1200 at Railway Depôt.

In. In.	£ s. d.	In. In.	£ s. d.
20×10 best blue Bangor	13 2 6	20 × 10 best Eureka unfading green	15 17 6
20 × 12 ditto	13 17 6	20 × 12 ditto	18 7 6
20×10 1st q'lity ditto	13 0 0	18 × 10 ditto	13 5 0
20 × 12 ditto	13 15 0	16 × 8 ditto	10 5 0
16 × 8 ditto	7 5 0	20 × 10 permanent green	11 12 6
22×10 best blue Portmadoc	12 12 6	18 × 10 ditto	9 12 6
16 × 8 ditto	6 12 6	16 × 8 ditto	6 12 6

TILES.

At Railway Depôt.

	s. d.		s. d.
Best plain red roofing (per 1000)	42 0	Best "Hartshill" brand, plain sand-faced (per 1000)	45 0
Hip and Valley (per doz.)	3 7	Do. pressed (per 1000)	42 6
Best Broseley (per 1000)	50 0	Do. Ornamental (per 1000)	47 6
Do. Ornamental (per 1000)	52 6	Hip (per doz.)	4 0
Hip and Valley (per doz.)	4 0	Valley (per doz)	3 6
Best Ruabon red, brown, or brindle (Edw'ds) (pr1000)	57 6	Staffords. (Hanley) Reds or Brindled (per 1000)	42 6
Do. Ornamental (per 1000)	60 0	Hand-made sand-faced (per1000)	45 0
Hip (per doz.)	4 0	Hip (per doz.)	4 0
Valley (perdoz.)	3 0	Valley (per doz)	3 6

WOOD.

BUILDING WOOD.	At per standard. £ s. d.	£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	15 0 0	16 10 0
Deals: best 3 in. by 9 in.	15 0 0	16 0 0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	12 10 0	13 10 0
Battens: best 2½ by 6 and 3 by 6	0 10 0	less than 7 in. and 8 in.
Deals: seconds	1 0 0	less than best
Battens: seconds	0 10 0	" "
2 in. by 4 in. and 2 in. by 6 in.	11 10 0	12 10 0
2 in. by 4½ in. and 2 in. by 5 in.	10 10 0	11 10 0
Foreign Sawn Boards— 1 in. and 1¼ in. by 7 in.	0 10 0	more than battens.
¾ in.	1 0 0	"
Fir timber: best middling Danzig or Memel (average specification)	At per load of 50 ft. 5 0 0	6 5 0
Seconds	4 10 0	5 0 0
Small timber (8 in. to 10 in.)	3 17 6	4 0 0
Small timber (6 in. to 8 in.)	3 5 0	3 10 0
Swedish balks	2 12 6	3 0 0
Pitch-pine timber (30 ft. average)	6 0 0	7 0 0

JOINERS' WOOD.	At per standard.	
White Sea: first yellow deals, 3 in. by 11 in.	26 0 0	27 0 0
3 in by 9 in.	24 0 0	25 0 0
Battens, 2½ in. and 3 in. by 7 in.	18 10 0	19 10 0
Second yellow deals, 3 in. by 11 in.	21 10 0	22 10 0
Do. 3 in. by 9 in.	20 0 0	21 0 0
Battens, 2½ in. and 3 in. by 7 in.	15 0 0	16 0 0
Third yellow deals, 3 in. by 11 in. and 9 in.	16 0 0	17 0 0
Battens, 2½ in. and 3 in. by 7 in.	14 0 0	15 0 0
Petersburg: first yellow deals, 3 in. by 11 in.	23 0 0	24 0 0
Do. 3 in. by 9 in.	20 0 0	21 0 0
Battens	15 0 0	16 0 0
Second yellow deals, 3 in. by 11 in.	17 10 0	18 10 0
Do. 3 in. by 9 in.	16 0 0	17 0 0
Battens	12 10 0	13 10 0
Third yellow deals, 3 in. by 11 in.	14 0 0	15 0 0
Do. 3 in. by 9 in.	13 10 0	14 10 0
Battens	11 10 0	12 10 0

WOOD (*Continued*).

JOINERS' WOOD (*Continued*)—	At per standard. £ s. d.	£ s. d.
White Sea and Petersburg— First white deals, 3 in. by 11 in.	16 10 0	17 10 0
First white deals, 3 in. by 9 in.	14 10 0	15 10 0
Battens	13 0 0	13 10 0
Second white deals, 3 in. by 11 in.	14 10 0	15 10 0
Second white deals, 3 in. by 9 in.	13 0 0	14 0 0
Battens	12 0 0	12 10 0
Pitch-pine deals	25 0 0	26 10 0
Under 2 in. thick extra	0 10 0	1 0 0
Columbian or Oregon Pine, best quality	23 10 0	26 0 0
Yellow Pine—First, regular sizes	50 0 0	upwards.
Oddments	35 0 0	"
Seconds, regular sizes	36 0 0	"
Oddments	31 0 0	"
Kauri Pine—Planks per ft. cube	0 5 6	0 6 6
Danzig and Stettin Oak Logs— Large, per ft. cube	0 3 0	0 3 9
Small " "	0 2 6	0 3 0
Wainscot Oak Logs, per ft. cube	0 7 6	0 9 0
Dry Wainscot Oak, per ft. super. as inch	0 0 10	0 1 2
¾ in. do. do.	0 0 9	0 1 0
Dry Mahogany—Honduras, Tabasco, per ft. super, as inch	0 0 10	0 1 3
Selected, Figury, per ft. super. as inch	0 1 6	0 2 6
Cuba Mahogany	0 1 4	0 2 6
		upwards
Dry Walnut, American, per ft. super, as inch	0 0 10	0 1 2
French "Italian." Walnut	0 0 10	0 1 4
Teak, per load (Rangoon or Moulmein)	20 10 0	26 0 0
Do., do. (Java)	19 0 0	22 10 0
American Whitewood planks, per ft. cube	0 5 6	0 6 6
Prepared Flooring, etc.—	Per square.	
1 in. by 7 in. yellow, planed and shot	0 14 6	0 18 0
1 in. by 7 in. yellow, planed and matched	0 14 9	0 18 0
1¼ in. by 7 in. yellow, planed and matched	0 17 6	1 3 0
1 in. by 7 in. white, planed and shot	0 14 0	0 16 0
1 in. by 7 in. white, planed and matched	0 14 3	0 16 6
1¼ in. by 7 in. white, planed and matched	0 16 6	0 8 6
¾ in. by 7 in. yellow, matched and beaded or V-jointed boards	0 12 6	0 15 0
1 in. by 7 in.	0 15 0	0 18 6
¾ in. by 7 in. white " "	0 12 0	0 14 0
1 in. by 7 in. " "	0 14 6	0 16 6

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London or delivered Railway Vans, per ton. £ s. d.	£ s. d.
Rolled Steel Joists, ordinary sections	9 0 0	10 0 0
Compound Girders, ordinary sections	11 0 0	12 0 0
Steel Compound Stanchions	12 0 0	13 0 0
Angles, Tees, and Channels, ordinary sections	11 0 0	12 0 0
Flitch Plates	11 0 0	12 0 0
Cast Iron Columns & Stanchions, including ordinary patterns	8 10 0	9 0 0

METALS.

	Per ton, in London. £ s. d.	£ s. d.
IRON— Common Bars	9 0 0	9 10 0
Staffordshire Crown Bars, good merchant quality	9 5 0	9 15 0
Staffordshire "Marked Bars"	11 0 0	—
Mild Steel Bars	9 5 0	9 15 0
Hoop Iron, basis price	10 0 0	—
" " Galvanised	17 10 0	—
(* And upwards, according to size and gauge.)		
Sheet Iron Black— Ordinary sizes to 20 g.	10 5 0	—
" " 24 g.	11 5 0	—
" " 26 g.	12 15 0	—
Sheet Iron, Galvanised, flat, ordinary quality— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 10 0	—
Ordinary sizes to 22 g. and 24 g.	16 0 0	—
Ordinary sizes to 26 g.	17 0 0	—
Sheet Iron, Galvanised, flat, best quality— Ordinary sizes to 20 g.	18 10 0	—
" " 22 g. and 24 g.	19 0 0	—
Ordinary sizes to 26 g.	20 10 0	—
Galvanised Corrugated Sheets— Ordinary sizes, 6 ft. to 6 ft. 20 g.	15 0 0	—
Ordinary sizes, 22 g. and 24 g.	15 5 0	—
Ordinary sizes, 26 g.	16 15 0	—
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	12 10 0	—
Best Soft Steel Sheets, 22 g. & 24 g.	13 10 0	—
Best Soft Steel Sheets, 26 g.	15 10 0	—
Cut Nails, 3 in. to 6 in.	11 0 0	11 10 0
(Under 3 in., usual trade extras.)		

LEAD, &c.

	Delivered in London. £ s. d.	£ s. d.
LEAD—Sheet, English, 4 lb. and up	22 15 0	—
Pipe in coils	22 10 0	—
Soil pipe	25 10 0	—
Compo pipe	25 10 0	—

LEAD, &c. (continued).

	Delivered in London. £ s. d. In casks of 10 cwt.	
ZINC—Sheet—		
Vielle Montagne	28 5 0 ..	—
Silesian	28 10 0 ..	—
Zinc, in bundles, 1s. per cwt. extra.		
COPPER—		
Strong Sheet ... per lb.	0 1 1 ..	—
Thin ... ,,	0 1 2 ..	—
Copper nails ... ,,	0 1 0 ..	—
Copper wire ... ,,	0 1 0 ..	—
BRASS—		
Strong Sheet ... ,,	0 1 0 ..	—
Thin ... ,,	0 1 1 ..	—
TIN—English Ingots ... ,,	0 1 10 ..	—
SOLDER—Plumbers' ,,	0 0 10 ..	—
Tinmen's ... ,,	0 1 1 ..	—
Blowpipe ... ,,	0 1 3 ..	—

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

Per Ft. Delivered.	
15 oz. thirds ... 2¼d.	26 oz. fourths ... 3½d.
,, fourths ... 2d.	32 oz. thirds ... 5½d.
21 oz. thirds ... 3¼d.	,, fourths ... 4½d.
,, fourths ... 3d.	Fluted Sheet, 15 oz. 3d.
26 oz. thirds ... 4¼d.	,, 21 oz. 4d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

Per Ft. Delivered.	
⅛ Rolled plate	2½d.
¼ Rough rolled and rough cast plate	2½d.
⅜ Rough rolled and rough cast plate	3d.
Figured Rolled, Oxford Rolled, Oceanic, Arctic, Muffled, and Rolled Cathedral, white	3½d.
Ditto, tinted	5d.

* Not less than two crates.

OILS, &c.		£ s. d.
Raw Linseed Oil in pipes ...	per gallon	0 2 2
,, ,, ,, in barrels ...	,,	0 2 3
,, ,, ,, in drums ...	,,	0 2 5
Boiled ,, ,, in barrels ...	,,	0 2 5
,, ,, ,, in drums ...	,,	0 2 8
Turpentine in barrels ...	,,	0 2 9
,, in drums ...	,,	0 2 11
Genuine Ground English White Lead, (In not less than 5 cwt. casks.)	per ton	29 15 0
Red Lead, Dry ...	per ton	28 0 0
Best Linseed Oil Putty ...	per cwt.	0 9 0
Stockholm Tar ...	per barrel	1 12 0

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of Churches	0 14 6
Fine Elastic Carriage	0 12 9
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 10 0
Finest Pale Durable Copal	0 18 6
Extra Pale French Oil	1 1 0
Eggshell Flating Varnish	0 18 0
White Pale Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 0
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knotting	0 10 6
French and Brush Polish	0 10 0

TERMS OF SUBSCRIPTION.

"THE BUILDER" (Published Weekly) is supplied DIRECT from the Office to residents in any part of the United Kingdom at the prepaid rate of 19s. per annum, with delivery *by Friday Morning's Post* in London and its suburbs.

To Canada, post-free, 21s. 4d. per annum; and to all parts of Europe, America, Australia, New Zealand, India, China, Ceylon, etc., 26s. per annum.

Remittances (payable to THE BUILDER LTD.) should be addressed to 4, Catherine-street, Aldwych, London W.C.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 6 p.m. *on Wednesday*. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.* unless in some exceptional cases and for special reasons.]

*Denotes *accepted*. †Denotes *provisionally accepted*.

BOURNEMOUTH.—For relaying wood-block paving in old Christchurch-road, for the Bournemouth Corporation:—
W. Griffiths & Co.* ... £700

BOURNEMOUTH.—For (a) the construction of the proposed conveniences and shelters on the Undercliff-drive, west of Boscombe Pier; and (b) shelters and cliff protection works on the promenade at Alum Chine, for the Bournemouth Corporation:—

T. Wilkinson & Co.* ...	(a)	£3,140
	(b)	1,179

BOURNEMOUTH.—For laying of surface-water drain, etc., for the Corporation:—
Grounds & Newton* ... £2,445

BROMLEY.—For making-up Grove Park-road, Mottingham, for the Bromley Rural District Council:—
H. Woodhams Catford* ... £3,388

BRADFORD.—For the execution of works required in the principal staircase at the Town Hall. Mr. Walter Williamson, architect, City Hall, Bradford:—

Electrical Installation: R. Crust* ...	£96 0
Fibrous Plaster-Work: L. Stead* ...	175 0
Carving: G. Seale & Co.* ...	305 10
Leaded Lights: A. Seward & Co.* ...	109 12
Balustrading, Lamp Standards and Brackets: W. Walker & Co.‡ ...	820 0

[‡ Conditionally.]

BRADFORD.—For house at Belmont-street. Mr. Walter Williamson, architect. City Hall, Bradford:—

Excavator, Mason, and Bricklayer's Work: Wright-North & Sons* ...	£244 0 0
Carpenter and Joiner's Work: F. Wray, jun.*	104 14 7
Plumber and Glazier's Work: F. Studwell* ...	82 0 0
Plasterer's Work: J. Goodyear* ...	42 14 9
Slater's Work: Hill & Nelson* ...	26 0 0

BRADFORD.—For work in connection with the Bowling Back-lane School. Mr. Walter Williamson, architect, City Hall, Bradford:—

Painting: S. W. White* ...	£95 0 0
Patent Glazing: Mellowes & Co.* 9½d. and 5½d. per lineal foot.	

EPSOM.—For construction of well, surface pumps, etc., for the Urban District Council:—
J. Simpson & Co., Ltd.* ... £2,303

FORDCOMBE.—For works of water supply:—

R. C. Brebner & Co. ...	£1,661 16 0	E. Punnett & Sons ...	£1,553 0 0
A. Streeter & Co., Ltd. ...	1,637 19 6	W. T. Burrows	1,542 0 0
H. Yarrow ...	1,583 1 9	Parks & Kemp	1,527 2 5
A. H. Blaker ...	1,508 5 11	A. H. Constable	1,494 0 0
		A. S. Ossington	1,471 10 3
		T. H. Bingham	1,407 17 0

HESTON.—For erection of new schools and caretaker's cottage in Alexandra-road, Hounslow, for the Heston and Isleworth Urban District Council. Mr. J. G. Carey, architect and surveyor, Hounslow. Quantities by Mr. H. W. Dodge, Brentford:—

W. E. Blake, Ltd. ...	£16,975 0 0	J. Dorey & Co., Ltd. ...	£15,228 0 0
W. J. Dickens	16,197 0 0	A. & B. Hanson	14,995 0 0
S. Roberts, Ltd.	16,087 9 1	J. Kite ...	14,900 0 0
I. Millman ...	15,995 0 0	W. Lacey, Hounslow‡ ...	14,271 0 0
G. H. Gibson & Sons ...	15,362 0 0		

‡ Recommended for acceptance.

HITCHIN.—For erection of two police cottages in Ickleford-road, for the Herts County Council:—
J. Naden, Hatfield* ... £430

LONDON.—For alterations to laundry buildings at Brook Hospital, for the Metropolitan Asylums Board:—

Rushton & Cory ...	£418	Gardner & Hazell, 84, Canonbury-road, Islington* ...	£377
E. Wall ...	398		
E. Mills ...	379		

LONDON.—For rebuilding two wards at Long Reach Hospital, for the Metropolitan Asylums Board:—

J. Garrett & Son	£4,743 0 0	L. Kazak, Railway-place, Belvedere* ...	£3,377 0 0
W. F. Blay, Ltd.	3,875 0 0	R. L. Tonge ...	2,985 0 0
W. Hussey ...	3,571 16 6		

LONDON.—Supply of Jarrah and creosoted deal paving blocks, for the permanent way of the London County Council:—

(1) Millars' Timber & Trading Co., Ltd.—Jarrah wood paving blocks:—

	Per 1,000.
60,000, size 3 in. by 6 in. by 3½ in. ...	£6 12 6
17,000, ,, ,, ...	6 12 6
10,000, ,, ,, ...	6 13 6
20,000, ,, ,, ...	6 13 9
12,000, ,, ,, ...	6 13 9
16,000, ,, ,, ...	7 2 6
35,000, size 3 in. by 9 in. by 4 in. ...	10 16 0
12,000, ,, ,, ...	10 17 0
30,000, ,, ,, ...	10 16 6
78,000, size 3 in. by 9 in. by 4½ in. ...	12 7 0
82,000, ,, ,, ...	12 8 6
40,000, ,, ,, ...	12 8 8
100,000, ,, ,, ...	12 13 6

(2) W. W. Howard, Bros., & Co.—Creosoted deal paving blocks:—

	Per 1,000.
60,000, size 3 in. by 9 in. by 4 in. ...	£7 15 0
5,000, ,, ,, ...	7 15 0
3,000, ,, ,, ...	7 15 0
12,000, size 3 in. by 9 in. by 4½ in. ...	8 12 6
165,000, ,, ,, ...	8 12 6
50,000, ,, ,, ...	8 12 6
26,000, ,, ,, ...	8 18 0

(3) Acme Flooring & Paving Co. (1904), Ltd.—Creosoted deal paving blocks:—

	Per 1,000.
80,000, size 3 in. by 9 in. by 4½ in. ...	£8 13 6
100,000, ,, ,, ...	8 15 6
150,000, size 3 in. by 9 in. by 5 in. ...	9 10 0

LONDON.—For enlarging Maryon Park School, for the London County Council:—

W. Mills & Sons, Ltd. ...	£5,711 10 6
J. Longley & Co. ...	5,490 0 0
Thomas & Edge ...	5,270 10 0
H. Kent ...	5,188 0 0
Brand, Pettit, & Co. ...	5,117 0 0
Friday & Ling ...	5,116 0 0
H. Groves ...	5,050 0 0
H. L. Holloway ...	4,947 0 0
J. & C. Bowyer, Ltd. ...	4,944 0 0
E. A. Roome & Co. ...	4,762 0 0
F. J. Gorham, Machine Joinery Works, Point-hill, Greenwich*	4,656 8 6

LONDON.—Enlargement of playground at Westbourne-road School, Islington, for the London County Council:—
Markham & Markham* ... £390

LONDON.—For enlargement of Broadwater-road School, Wandsworth, for the London County Council:—

F. W. Fletcher ...	£1,138 0 0
H. & E. Lea ...	1,111 0 0
A. Leather ...	1,106 19 0
W. Akers & Co. ...	1,065 0 0
Lole & Co. ...	1,063 10 8
Triggs & Co. ...	1,039 0 0
Pasterfield & English ...	1,023 0 0
J. & C. Bowyer, Ltd. ...	1,015 0 0
J. Marsland & Sons ...	1,009 0 0
F. & G. Foster ...	975 0 0
H. H. Hollingsworth, Battens-yard, High-street, Peckham* ...	936 0 0

LONDON.—For drainage of Mornington-road School, Kensington, for the London County Council:—

H. W. Crook & Son, Ltd. ...	£1,390 0	B. Finch & Co., Ltd.	£920 0
T. Bendon, Ltd..	1,396 10	W. Beattie ...	852 0
G. Godson & Sons	1,371 0	T. W. Heath & Son, 154, Cromwell-road, Kensington* ...	761 5
I. C Tennant & Co.	1,338 0		
F. W. Fletcher ...	1,035 0		
Triggs & Co. ...	947 0		

LONDON.—For provision of centres and special rooms at Bloomfield-road School, Woolwich, for the London County Council:—

Vigor & Co. ...	£2,443 0 0	Griggs & Son	£2 017 0 0
W. Mills & Sons, Ltd.,	2,255 14 10½	Friday & Ling	1,975 8 0
F. J. Gorham	2,117 6 4	H. L. Holloway	1,929 0 0
Thomas & Edge ...	2,031 0 0	H. Groves, Stockwell-street, Greenwich* ...	1,898 0 0
E. Mills ...	2,031 0 0		

LONDON.—For enlarging Hither Green School, Lewisham, for the London County Council:—

J. Carmichael ...	£16,472	J. Garrett & Son ...	£15,444
W. King & Son ...	16,349	J. & C. Bowyer, Ltd.	15,297
W. Akers & Co., Ltd.	16,258	J. Smith & Sons, Ltd., Junction Works, South Norwood* ...	15,135
F. & T. Thorne ...	16,200		
G. E. Wallis & Sons, Ltd. ...	15,944		
Thomas & Edge ...	15,972	W. Smith & Son ...	14,820

[Architect's estimate, £15,000.]

LONDON.—For rebuilding Woolmore-street School, for the London County Council:—

J. Chessum & Sons	£17,507	W. Shurmur & Sons, Ltd. ...	£15,768
C. Wall, Ltd. ...	17,280	W. Lawrence & Son	15,757
F. & T. Thorne ...	17,156	J. Marsland & Sons	15,421
Rowley Bros. ...	16,460	J. & C. Bowyer, Ltd. ...	15,347
G. E. Wallis & Sons, Ltd. ...	16,447	Brand, Pettit, & Co., 247, West Green-road, Tottenham*	15,236
McCormick & Sons, Ltd. ...	16,238		
Patman & Fotheringham, Ltd. ...	15,823		

[Architect's estimate, £15,950.]

LONDON.—For installation of heating apparatus in Vernon-square School, Finsbury, for the London County Council:—
W. Freer, 29, Holborn Hall* ... £1,150

LONDON.—For remodelling Victoria School, Hammersmith, for the London County Council:—

F. & T. Thorne ...	£15,725 0 0
G. E. Wallis & Sons, Ltd. ...	14,875 0 0
J. Garrett & Son ...	14,495 0 0
J. Carmichael ...	14,454 0 0
Patman & Fotheringham, Ltd. ...	14,023 0 0
J. & C. Bowyer, Ltd. ...	13,997 0 0
S. N. Soole & Son ...	13,632 0 0
W. Smith & Sons ...	13,617 0 0
Brand, Pettit, & Co. ...	13,492 0 0
W. Moss & Sons, Ltd., 48, Bedford-row* ...	13,263 5 10

[Architect's estimate, £14,350.]

LONDON.—For enlarging the Ensham School, Wandsworth, for the London County Council:—

W. King & Son ...	£7,735	Triggs & Co. ...	£7,450
J. Garrett & Son ...	7,714	J. & C. Bowyer, Ltd.	7,300
J. Carmichael ...	7,693	J. McManus ...	7,177
F. & H. F. Higgs ...	7,693	Lole & Co., Trafalgar-square, Chelsea*	6,992
J. Smith & Sons, Ltd.	7,459		

[Architect's estimate, £6,995.]

LONDON.—For factory, Park Royal, Willesden, for Messrs. Simonis & Co. Mr. Walter Pamphilon, architect, 21, Finsbury-pavement, E.C.:—

W. J. Dickens ...	£5,649	Roome & Co. ...	£5,473
F. & H. F. Higgs ...	5,555	Harris & Wardrop ...	5,464
H. C. Horswill ...	5,536	Parker & Sons ...	5,177
Sabey & Son ...	5,493	W. Jones & Sons ...	5,055

LONDON.—For new school, Cork-street, Camberwell, for the London County Council:—

F. & T. Thorne ...	£23,617
G. Parker & Sons ...	22,727
Leslie & Co. ...	22,722
Rowley Bros. ...	22,343
W. Downs ...	21,977
Brand, Pettit, & Co. ...	21,976
W. Smith & Son ...	21,876
G. E. Wallis & Sons ...	21,842
G. Godson & Sons ...	21,197
T. D. Long ...	21,155
W. Lawrence & Son ...	21,072
J. & C. Bowyer, Ltd. ...	20,993
W. Moss & Sons, Ltd. ...	20,778
J. Smith & Sons, Ltd. ...	20,550
J. Marsland & Sons, York-street, Walworth* ...	20,540

LONDON.—For remodelling Star-lane School, Fulham, for the London County Council:—

Leslie & Co., Ltd. ...	£18,255 0 0
G. E. Wallis & Sons, Ltd. ...	17,994 0 0
J. Willmott & Sons ...	17,346 0 0
W. Downs ...	17,286 0 0
J. Chessum & Sons ...	17,095 19 6
J. Marsland & Sons ...	16,457 0 0
J. McManus ...	16,386 0 0
J. & C. Bowyer, Ltd. ...	16,335 0 0
W. E. Blake, Ltd., Stevenage-road, Fulham* ...	15,431 0 0

[Architect's estimate, £16,800.]

LONDON.—For building in Portugal-street, for Messrs. W. H. Smith & Son :—

Foster & Dicksee, Ltd.	£159,867	W. Downs	£155,190
Holliday & Greenwood, Ltd.	157,638	Holland & Hannen	154,444
Holloway Bros., Ltd.	157,000	W. Blake, Ltd.	153,850
Wallis & Son, Ltd.	155,742	F. H. Higgs	152,400
J. Carmichael	155,425	Fairhead & Son	152,168
		Killby & Gayford, Ltd.	151,820

MOTTINGHAM.—For making-up Grove Park-road. Mr. W. J. Winter, Surveyor, Rural District Council Offices, Bromley :—
R. Woodhams, Catford* £3,383

NOTTINGHAM.—For the rebuilding of the Cremorne Hotel, Queen's-walk, Nottingham, for the Home Brewery Co., Ltd. Mr. Fred C. Martin, architect, Angel-row, Nottingham :—

W. Woodsend	£2,815 0	C. Williamson	£2,626 10
T. Fish & Son	2,755 0	T. Barlow & Co.	2,620 0
Gilbert & Hall	2,630 0	W. Maule & Co.*	2,500 0
W. Appleby	2,629 0		

ST. ALBANS.—For erection of eight cottages at Hill End Asylum, for the Herts County Council :—
C. W. Dumpleton, St. Albans* £1,920

STRETFORD.—For the completion of Longford-road (Ashover-street to the Canal). Mr. Ernest Worrall, Surveyor, Urban District Council Offices :—
W. H. Worthington, Ltd.* £470 19 8

STRETFORD.—For the construction of a new storm sewer and channel. Mr. Ernest Worrall, Surveyor, Urban District Council Offices :—
E. Nuttall & Co.* £8,306 5 6

TORQUAY.—Widening of Torquay-road, for the Corporation :—
Yeo & Sons* £1,490

TUNBRIDGE WELLS.—Proposed motor-house and chauffeur's dwelling, etc., at 23, Broadwater-down, for Dr. Madin E. Waldstein. Mr. Stanley Philpot, Licentiate R.I.B.A., architect :—

Huggett & Bridger	£939	J. Jarvis, Ltd.	£907
Strange & Sons, Ltd.	926	T. Bates*	869
W. Hobbs & Son	914		

WARRINGTON.—For erection of boiler-house, etc., at the baths, for the Corporation :—
P. McLachlan* £973

WIMBLEDON.—For making-up Wilton-crescent and portion of Crompton-road. Mr. C. H. Cooper, Borough Surveyor, Town Hall, Wimbledon :—
S. Lane, 22a, Cecil-road, Wimbledon (Wilton-crescent)* £1,150 0
W. & E. Iles, North-road, Wimbledon (Crompton-road)* 646 0

WINDSOR.—For Contract B of the Sunninghill and Sunningdale main sewerage scheme, for the Windsor Rural District Council :—

W. Muirhead & Co., Ltd.	£110,727 0 0	A. Thompson	£60,975 0 7
R. C. Brebner & Co.	72,073 0 0	E. Iles, sen.	59,688 0 0
F. Osman & Co.	68,575 0 0	W. Wright	59,676 0 0
J. Riley	67,959 13 5	C. Bentley	58,680 0 0
Wort & Way	66,750 0 0	Langley & Johnson	55,436 0 0
J. Mowlem & Co., Ltd.	65,469 0 0	M. S. Boswell	55,221 0 0
W. Moss & Sons, Ltd.	64,000 0 0	A. Streater & Co., Ltd.	54,435 17 4
F. W. Southorn & Co.	62,562 0 0	Hardy & Co.	52,600 0 0
J. M. Vine	62,004 0 0	A. Graham & Sons	52,500 0 0
Mayfair & Toole	60,980 0 0	J. Dickson, Cumberland House, St. Albans*	52,262 7 1

WESTBURY.—For boiler, piping, etc., in connection with heating and laundry scheme, for the Westbury Board of Guardians :—
Saunders & Taylor, Manchester* £1,141 10

WREXHAM.—For iron fencing on road and bridge, for the Wrexham Rural District Council. Mr. T. Rees Evans, surveyor, Johnstown, Ruabon :—

	Estimate No. 1.	Estimate No. 2.
I. H. Edwards	£98 0 0	£77 0 0
W. Hayward & Sons	94 17 0	67 15 0
G. P. Trentham, Ltd., Birmingham	107 0 0	67 0 0
W. Hughes	88 0 0	71 2 0

Austrian
DRY, FIRST-CLASS, MILD GRAINED
WAINSCOT Oak
SYDNEY PRIDAY,
KING WILLIAM HOUSE, 2a, EASTCHEAP, LONDON, E.C.
Depot : Wainscot Sheds, Millwall, E. *T.N.: Avenue 667.*

A Perfect Equipment.
The first step towards ideal letter-filing is a perfect filing equipment. You get this, the fine result of a lifetime of experiment and experience, in
The Amberg Way
which is the last word in simple and scientific letter-filing. It saves in every direction, and pays all who adopt it.
Amberg INDEXING
can be readily adapted to any vertical cabinets, and adds wonderfully to their efficiency.
If you cannot call, write for Catalogue A7.
AMBERG FILE & INDEX CO.,
27, Little Britain, E.C.
'Phone : City 3493 (Two lines).

J. J. ETRIDGE, Jr.
SLATE MERCHANTS. LTD.
EXPERTS IN
SLATING, TILING.
BEST WORK ONLY.
Telephone : Avenue 4940 (two lines), or write—
Bethnal Green Slate Works,
BETHNAL GREEN, LONDON, E.

Ham Hill Stone.
Doulting Stone.
Portland Stone.
The Ham Hill and Doulting Stone Co., Limited
(Incorporating the Ham Hill Stone Co. and C. Trask & Son, The Doulting Stone Co.).
Norton, Stoke-under-Ham, Somerset.
London Agent :—Mr. E. A. Williams, 16, Craven-street, Strand.

Asphalte.—The Seyssel and Metallic Lava Asphalte Co. (Mr. H. Glenn), Office, 42, Poultry, E.C.—The best and cheapest materials for damp courses, railway arches, warehouse floors, flat roofs, stables, cow-sheds and milk-rooms, granaries, tun-rooms, and terraces. Asphalte Contractors to Forth Bridge Co. T.N. 2644 Central.

SPRAGUE & CO., Ltd.,
PHOTOLITHOGRAPHERS,
69 and 70, Dean-street,
Soho, W.

OGILVIE & CO., Telephone : DALSTON 188. Many years connected with the late firm of W. H. LASCELLES & Co., of Bunhill Row.
Mildmay Works, Mildmay Avenue, Islington, N.
EXPERTS IN HIGH-CLASS JOINERY.
ALTERATIONS AND DECORATIONS. ESTIMATES FREE.

ASPHALTE
For Horizontal and Vertical Damp Courses.
For Flat Roofs, Basements, and other Floors.
The best materials and workmanship are supplied by
THE
French Asphalte Co.
Whose name and address should be inserted in all specifications.
For estimates, quotations, and all information Apply at the Offices of the Company.
5, LAURENCE POUNTNEY HILL,
CANNON STREET, E.C.

EWART'S
"EMPEROR"
Write to-day for Catalogue 55.
Established 1834.
Telephone : 2570 NORTH.
Telegrams : "GEYSER, LONDON."
APPRECIATIONS.
"A perfect success. My builder tried every cowl he knew of, but nothing cured till he fixed your 'Emperor.'"
"Absolutely successful. Cured where all other cowls had failed. Am recommending the 'Emperor' to everyone with a smoky chimney."
"Ewart's 'Emperor' cowl has cured our smoky chimneys. We now have over a hundred fixed, and all have cured."
EWART & SON, Ltd.,
346-350 Euston Road, London N.W.
SMOKE-CURE